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Agriculture

LAND AND RESOURCE MANAGEMENT PLAN

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PREFACE

This National Forest Land and Resource Management Plan (Forest Plan) was developed to direct the management of the Toiyabe National Forest. The goal of the Plan is to provide a management program reflective of a mixture of management activities that allow use and protection of Forest resources; fulfill legislative requirements; and address local, regional, and national issues and concerns. To accomplish this, the Forest Plan:

SPECIFIES THE STANDARDS AND GUIDELINES AND THE APPROXIMATE TIMING AND VICINITY OF THE PRACTICES NECESSARY TO ACHIEVE THAT DIRECTION; AND

ESTABLISHES THE MONITORING AND EVALUATION REQUIREMENTS NEEDED TO ENSURE THAT THE DIRECTION IS CARRIED OUT AND TO DETERMINE HOW WELL OUTPUTS AND EFFECTS WERE PREDICTED.

The Forest Plan will be reviewed (and updated if necessary) at least every five years. It will be revised on a 10- to 15-year cycle.

Preparation of the Forest Plan is required by the Forest and Rangeland Renewable Resources Planning Act (RPA) as amended by the National Forest Management Act (NFMA). Assessment of its environmental impacts is required by the National Environmental Policy Act (NEPA) and the implementing regulations of NFMA (36 CFR 219). The Forest Plan replaces all previous resource management plans prepared for the Toiyabe National Forest. Upon approval of the Forest Plan, all subsequent activities affecting the Forest must be in compliance with the Forest Plan. In addition, all permits, contracts and other instruments for the use and occupancy of National Forest System lands must be in conformance with the Forest Plan.

RELATIONSHIP TO OTHER PLANNING LEVELS

Development of this Forest Plan occurs within the framework of Forest Service regional and national planning. The RPA Program sets the national direction and resource levels for National Forest System lands, based on suitability and capability information for each Forest Service region. Each regional disaggregation is based on the information gathered at the Forest level.

Each Forest Plan validates or provides a basis for changing the production levels assigned by the Region through the Regional Guide. Activities are planned and implemented by the Forest to carry out the direction developed in the Forest Plan.

PUBLIC REVIEW AND APPEAL RIGHTS

The opportunity to request an administrative review of a Forest Plan and Environmental Impact Statement is limited to after issuance of a record of decision.

If any particular provision of this proposed action, or application thereof to any person or circumstances, is held invalid, then the remainder of the proposed action and the application of such provision to other persons or circumstances shall not be affected thereby.

Comments regarding this plan should be sent to the:

Forest Supervisor
1200 Franklin Way
Sparks, Nevada 89431

Toiyabe National Forest
Land and Resource Management Plan

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I. INTRODUCTION

CHAPTER I
INTRODUCTION

PURPOSE OF THE PLAN

This National Forest Land and Resource Management Plan (Forest Plan) guides all natural resource management activities and establishes management standards and guidelines for the Toiyabe National Forest. It describes resource production and management as well as the availability and suitability of lands for resource management. Specifically, this Forest Plan:

-- specifies standards and approximate timing and vicinity of practices necessary to achieve that direction.

-- establishes monitoring and evaluation requirements needed to ensure that direction is carried out and to determine how well outputs and effects were predicted.

-- will be reviewed (and updated if necessary) at least every five years. It will be revised on a ten-year cycle.

The Forest Plan embodies the provisions of the National Forest Management Act (NFMA), the regulations, and other guiding documents. Land distribution, prescriptions, and standards and guidelines are statements of the Plan's management direction. However, projected yields, services, and rates of implementation are dependent on the annual budgeting process.

RELATIONSHIP OF THE FOREST PLAN TO THE FEIS

This Forest Plan is based on the various considerations which have been addressed in the accompanying Final Environmental Impact Statement (FEIS).

The planning process and the analysis procedures used in developing this Plan, as well as the other alternatives considered, are described or referenced in the FEIS. Activities and projects will be planned and implemented to carry out direction in this Plan. These local projects will be "tiered" to the accompanying FEIS as provided for in 40 CFR 1502.20. 1/ The local project environmental analysis will include data and evaluation from the Plan and FEIS as its basis.

1/ Refer to Chapter I of the Final Environmental Impact Statement for a discussion on tiering.

RELATIONSHIP OF THE FOREST PLAN TO REGIONAL GUIDE

The Regional Guide provided regional standards and guidelines and tentative Forest resource objectives from the 1980 Forest and Rangelands Renewable Resource Planning Act (RPA) program for the Forest. These were used in formulating this Plan.

STRUCTURE OF THE PLAN

As displayed in this document, the Forest Plan provides two levels of direction: general Forest-wide management direction and specific direction for each Management Area. Direction is described in terms of management goals and objectives, Forest-wide standards and guidelines, and Management Area direction. The Forest Plan also specifies monitoring and evaluation criteria.

The Forest Plan is structured as follows:

Chapter I provides an introduction to the Toiyabe National Forest and the Forest Plan.

Chapter II presents the Analysis of the Management Situation (AMS) Summary:

A. The Physical and Biological Environment

B. The Social and Economic Environment

(Sections A and B include a summary of the physical, biological, social, and economic environment of the Toiyabe National Forest.)

C. Definitions of the Benchmarks used for Analysis

D. Demand Conditions

E. Supply and Demand Comparison

A supply and demand conditions display for each of the RPA planning periods is given.

F. Research Needs

This section includes the research needs identified as required under CFR 219.7(3). This set of research needs may be supplemented if additional needs are identified during Plan monitoring and evaluation activities.

Chapter III shows how the Plan addresses and responds to major public issues, management concerns, and resource opportunities (ICO's) identified during the planning process.

Chapter IV contains the Forest-wide multiple-use goals, desired future condition, and standards and guidelines that apply to the Toiyabe National Forest. Twelve Management Areas are described and management direction and activities are discussed for each area.

Chapter V provides direction for implementation of the Forest Plan. It focuses on monitoring and evaluation direction and criteria, and a schedule of activities in the form of a Forest Action Plan.

Chapter VI is a glossary.

Chapter VII is the appendix. Appendices contain material necessary to understand and use the Forest Plan.

Additional information is incorporated through references. Most of this information is available through the Toiyabe National Forest planning records. These records are available for review at the Toiyabe National Forest Supervisor's Office, Sparks, Nevada.

THE FOREST

LOCATION

The Toiyabe National Forest manages lands located along the east slope of the Sierra and adjacent mountain ranges; the Paradise, Shoshone, Toiyabe, Toquima, and Monitor ranges in central Nevada; and the Mount Charleston area of the Spring Mountain Range near Las Vegas. The Forest provides a wide-range of resources and opportunities, including timber, range, wildlife, watershed, developed and dispersed recreation, and wilderness. The majority of Nevada's population lives less than one hour's drive from the Forest.

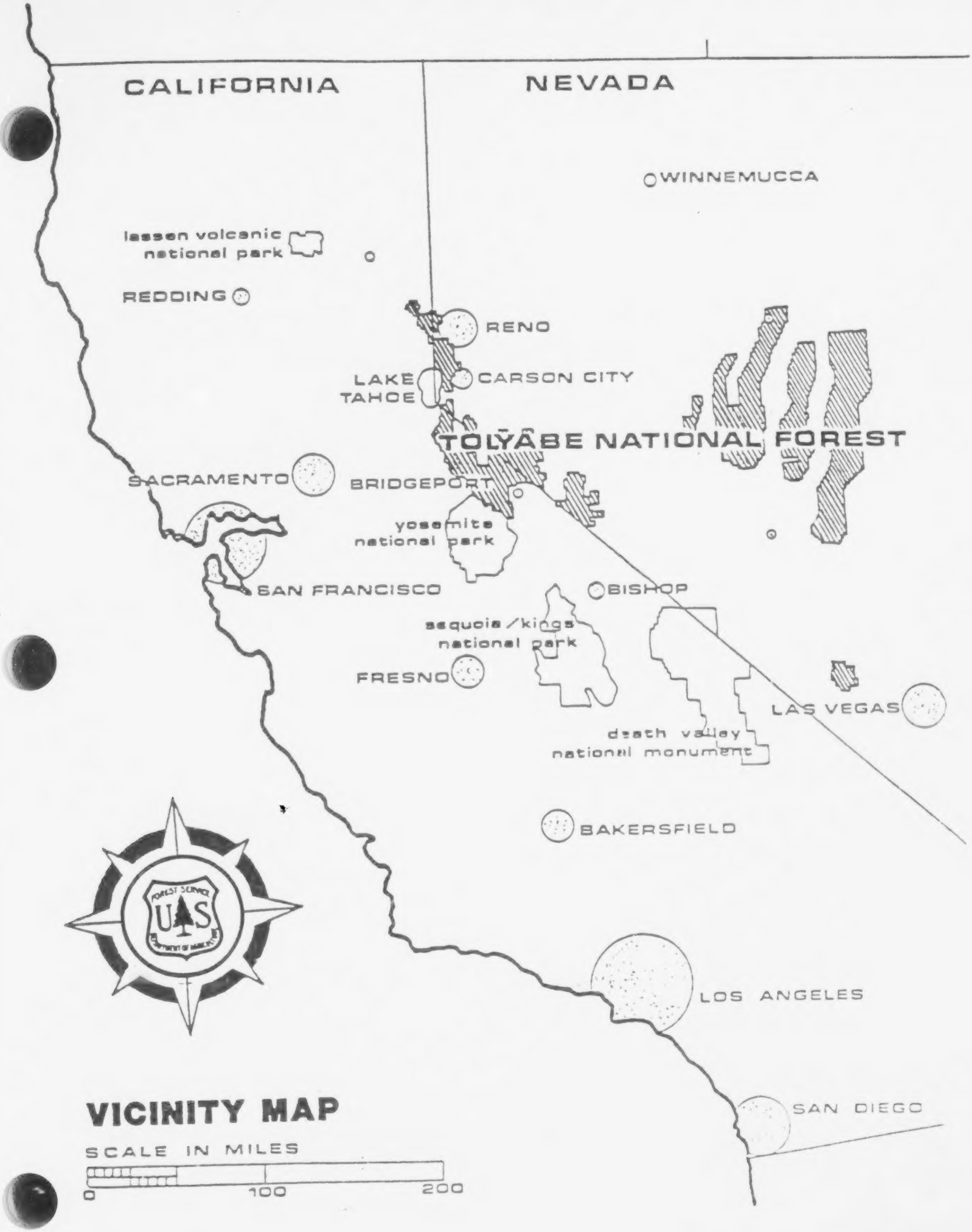
ORGANIZATION AND HEADQUARTERS LOCATION

The Forest Supervisor is headquartered in Sparks, Nevada. There are ranger district offices located in Nevada at Carson City, Austin, Tonopah, and Las Vegas, and in Bridgeport, California.

MANAGEMENT STRUCTURE

The Toiyabe National Forest is administered by a Forest Supervisor and seven Staff Officers (Timber/Fire, Engineering, Public Information, Recreation/Lands/Minerals, Range/Watershed/Wildlife/Fisheries, Administration and Planning, Development and Budget). The Tonopah, Austin, Carson City, Las Vegas, and Bridgeport Districts each have one District Ranger.

Employees within the Forest Supervisor's office in Sparks provide support services for the Toiyabe. On the Carson, Tonopah, Austin, Bridgeport, and Las Vegas districts, there are range conservationists, foresters, wildlife biologists, technicians, forest workers, and volunteers who contribute to the achievement of the management direction of the Toiyabe National Forest. The Forest also uses the Senior Community Service Employment Program (SCSEP).


CALIFORNIA
NEVADA
WINNEMUCCA
lassen volcanic national park
REDDING
RENO
LAKE TAHOE
CARSON CITY
TOIYABE NATIONAL FOREST
SACRAMENTO
BRIDGEPORT
yosemite national park
SAN FRANCISCO
BISHOP
sequoia/kings national park
FRESNO
LAS VEGAS
death valley national monument
BAKERSFIELD
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U S
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100
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VICINITY MAP

II. ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

CHAPTER II

ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

This chapter presents a summary of the Analysis of the Management Situation on the Toiyabe National Forest. NFMA regulations [36 CFR 219.12(e)] require that an analysis of the management situation be made to determine the ability of the Forest to supply goods and services in response to society's demands. This determination provides the basis for decisions to change management emphasis and guides the direction and extent of those changes. This chapter includes the following sections:

1. The Physical and Biological Environment
    a. Availability of goods, services, and uses under existing conditions (current management)
    b. Resource use and development opportunities
    c. Production potential for major resources
2. The Social and Economic Environment
3. Definitions of the Benchmarks Used for Analysis
4. Demand Conditions
5. Supply and Demand Comparison
6. Research Needs

THE PHYSICAL AND BIOLOGICAL ENVIRONMENT

THE FOREST

The planning unit consists of all National Forest System lands on the Toiyabe National Forest, with the exception of those Toiyabe National Forest lands within the Lake Tahoe Basin Management Unit. In 1973, by Presidential proclamation, a portion of the Toiyabe with in the Lake Tahoe Basin became part of a special management area, the Lake Tahoe Basin Management Unit (LTBMU), along with portions of the Tahoe and Eldorado National Forests. The LTBMU was established to provide special protection for the unique features of Lake Tahoe and its watershed. This area will not be covered by the Toiyabe National Forest Plan. Further mention of the Toiyabe will not include those lands with in the LTBMU.

The Toiyabe consists of three distinct divisions, each with different resource capabilities, issues, management concerns, and users. The three divisions are: Sierra Nevada (Carson and Bridgeport Ranger Districts), central Nevada

(Austin and Tonopah Ranger Districts), and Mount Charleston (Las Vegas Ranger District).

The Forest falls within two analysis areas as defined by the Regional Guide - the Sierra Front and the Great Basin analysis area. The Toiyabe is a scattered Forest encompassing parts of western, central, and southern Nevada, and eastern California.

The Sierra division contains approximately 700,000 acres, generally lying west of US 395 along the California - Nevada border. The area supports a variety of important commercial tree species including Jeffrey pine, white fir, California red fir, western white pine, and lodgepole pine. Lesser amounts of sugar pine, incense cedar, and mountain hemlock exist. Aspen is limited. There are extensive stands of pinyon/juniper at the lower elevations. The area produces most of the water for western Nevada and includes the sources of the Carson and Walker river systems. Lakes are plentiful; visual quality is outstanding, and recreational use of the area is extremely high.

Central Nevada includes lands in Lyon and Mineral counties in Nevada, as well as lands farther east in Nye, Lander, and Eureka counties. Approximately 2.4 million acres are within this unit. The area is typical of the Basin/Range landform in Nevada. Vegetation consists of pinyon/juniper, sagebrush types, aspen at higher elevations, and subalpine and alpine plant communities consisting of mountain mahogany, limber pine, and bristlecone pine.

Mount Charleston consists of approximately 58,000 acres of National Forest System lands in the Spring Mountains near Las Vegas, Nevada. This is a thrust or fold of limestone formations rising sharply from the desert floor and includes a low-desert to subalpine environment. Vegetation includes ponderosa pine, white fir, bristlecone pine, limber pine, oak, pinyon/juniper, aspen, and mahogany. Visual quality is outstanding, and the area provides a rare, forested environment in southern Nevada.

CLIMATE

Sierra - The Sierra is heavily influenced by its proximity to the Pacific Ocean. Annual variation in snowfall is great because of the Pacific influence. Precipitation falls mainly in the winter as snow and may total as much as 70 inches per year at the highest elevations. At the base of the Sierra front precipitation seldom exceeds 10 inches.

Central Nevada - Summers are hot, but winters are relatively mild. Annual precipitation averages only five inches in the valleys to 20 inches in the higher elevations. Most of the moisture falls in winter, although high, intense summer thunderstorms and flash flooding are common occurrences.

Mount Charleston - The summers are hot. Precipitation ranges from 11 inches to 28 inches annually - mostly in winter as snow, with intense thunderstorms in late July and early August. This unit is influenced during the summer with moisture from the Mexican Pacific Coast.

RECREATION

Developed Recreation--Public (Publicly Managed Recreation Opportunities)

Some developed recreation sites within portions of the Forest are operating at well over 40 percent of their theoretical capacity (PTC). Forty percent PTC is the nationally accepted level of maximum advisable occupancy of a developed site. At this level of use, site deterioration may become evident.

In parts of the Forest, some campgrounds are operating consistently above 50 percent; some at 70, 80, and even 90 percent PTC. Campgrounds in Alpine County, Robinson Creek, Virginia Creek, and on Mount Charleston receive the heaviest use. Table II-1 displays campground use as a percentage of theoretical capacity for major divisions of the Forest.

TABLE II-1 RECREATION USE IN PUBLIC SITES AS A PERCENTAGE OF THEORETICAL CAPACITY

Percent of Theoretical Capacity	Number of Sites by Division North Sierra	South Sierra	Central Nevada	Mount Charleston
81-100	1	2	0	1
61-80	0	5	0	2
41-60	3	5	0	6
21-40	3	2	1	3
0-20	1	1	4	6

Developed Recreation--Private (Privately Provided Recreation Opportunities)

There are 162 recreation special use permits on the Toiyabe, nearly all of which are on the Carson, Bridgeport, and Las Vegas districts. There are also a number of resorts based on private lands which provide recreational opportunities on the National Forest.

Dispersed Recreation (Trails, Rivers, and Similar Recreation Opportunities)

Trails

The Forest manages approximately 1,021 miles of trails for hiking, backpacking, horseback riding, and off-road vehicle (ORV) use. Many miles of the trail system are rarely used because of inadequate maintenance and lack of demand due to their isolation. Trails on the Toiyabe received about 162,500 Recreational Visitor Days (RVDs) of use in 1984, and use is projected to increase to 220,000 RVDs over the 50 year planning horizon. About 70 percent of trail use occurs on the Bridgeport District. Table II-2 displays trail mileage by level and frequency of maintenance.

TABLE II-2 TRAIL MAINTENANCE GUIDE

Maintenance Level*	1	2	3-4	Total
Frequency (Years)	3-5	2-3	1-2	
Miles by Division				
North Sierra	31	134	58	223
South Sierra	78	68	81	227
Central Nevada	270	183	67	520
Mt. Charleston	0	6	45	51
Total	379	391	251	1021

Trail Maintenance Levels*

Level 1 - Trails maintained for primitive experience level. Custodial care only. No tread maintenance. Drainage functional and not likely to fail. Trail sides not brushed, but tread is kept passable. Small slides may remain except for erosion potential. Structures maintained as needed. Signing may be deferred. Condition survey and maintenance performed every 3-5 years.

Level 2 - Trails maintained for near-primitive experience level. Tread maintained for public safety. Logs or similar rustic structures may be provided at stream crossings. Drainage same as Level 1. Signing at a minimum level commensurate with the level of trail use. Condition survey and maintenance performed every 2-3 years.

Level 3 - Trails maintained for intermediate experience level. Tread maintained for public safety and user convenience. Drainage same as Level 1. Trailsides brushed out at Handbook standards. Structures maintained to original design standards. Signing same as Level 2. Condition survey and maintenance performed every 1-2 years.

Level 4 - Trails maintained at relatively high standards to provide for public safety and convenience. Tread relatively smooth, firm, and may require stabilization. Signing at high level. All other elements same as Level 3. Condition surveys performed at least annually.

In addition to the 1,021 miles of system trails, it is estimated there are several hundred miles of nonsystem trails which are not inventoried.

Nevada's Statewide Comprehensive Outdoor Recreation Plan (SCORP) recognizes that central Nevada has an abundance of trails which are a potentially invaluable but underused recreation resource.

In contrast, SCORP recognizes that in western Nevada there is a general lack of certain outdoor recreation facilities, including easy access to trails. This is especially true in the Carson Range. Close-in trail heads and feeder trails are in short supply in the Reno-Sparks-Carson City vicinity.

There are three existing trails of national status on the Toiyabe, with a total of 150 miles. They are the Pacific Crest National Scenic Trail (approximately 75 miles are found within the Carson and Bridgeport districts), the Toiyabe Crest National Recreation Trail (approximately 67 miles in central Nevada on the Austin and Tonopah districts), and the Mount Charleston National Recreation Trail (approximately eight miles on the Las Vegas District).

Two proposed trails of national status which would cross the Forest are in preliminary stages of planning. Both would be interstate trails. The Western States Trail will cross the Forest near Mount Rose and drop off the Carson Range to Washoe Valley. The other, the High Desert Trail, would traverse central Nevada, running from Oregon into southern California. A proposed "rim" trail around Lake Tahoe Basin will be partially located within the Toiyabe National Forest.

Wild and Scenic Rivers

Rivers that have designation potential for wild, scenic, and/or recreational classification were inventoried by the former USDI Heritage Conservation and Recreation Service for possible inclusion in the National Wild and Scenic River System under Section 5(d), PL 90-542. The following rivers were inventoried:

> East Walker River - From bridge crossing below Sweetwater Creek confluence to bridge crossing near headwaters of Flying M Ranch.
>
> West Walker River - From confluence of East Walker River to source.
>
> East Fork Carson River - From last diversion dam, approximately one mile above Lahontan Fish Hatchery, to the source.

The Toiyabe has completed eligibility studies on the East Fork of the Carson River and the West Fork of the Walker. The study for these rivers is on file in the Supervisor's Office. Although the eligibility study has been completed, the suitability study remains to be done and is scheduled in the Forest Plan for completion. The Forest Service cannot designate a Wild and Scenic River. Designation authority is reserved by Congress.

The Bureau of Land Management (BLM) has been designated lead agency for completion of the eligibility and suitability study on the East Walker River. Completion of this study will be scheduled in the BLM planning process.

In the interim, activities will be managed to assure protection of the wild/scenic or recreational river values until recommendations and decisions are made.

SCENIC RESOURCES

An inventory of the scenic resources on the Forest has been completed using the visual management system outlined in "National Forest Landscape Management, Volume 2."

The existing inventory includes the following at the end of the fifty year period.

Visual Quality Objective	Acres
Preservation 1/	396,600
Retention	438,000
Partial Retention	1,022,400
Modification	1,086,700
Maximum Modification	228,000
	3,171,700

1/ Areas recommended for wilderness are included in "Preservation"

WILDERNESS

Several areas of the Forest experience unusually high levels of dispersed recreation use. Three such areas are the Hoover Wilderness, the upper West Walker River drainage (which consitutes a possible addition to the Hoover Wilderness), and the upper East Carson River drainage (which is the Toiyabe portion of the Carson-Iceberg Wilderness).

Existing Wilderness

The Hoover Wilderness of 48,631 acres is jointly administered by the Toiyabe and Inyo National Forests. The Toiyabe administers 39,094 acres and the Inyo administers the remaining 9,537 acres.

California Wilderness Act of 1984 (CWA)

In September 1984, the new California Wilderness Act (CWA) was signed by the President. Legislation included the following areas on the Toiyabe National Forest:

Wilderness (CWA)

-- Carson-Iceberg 77,000 acres (approximate acreage)

(An additional 83,000 acres are on the Stanislaus National Forest)

- Mokelumne addition 19,000 acres (approximate acreage)
  (An additional 36,000 acres are on the Stanislaus and Eldorado National Forests)

Congressional Study Areas (CWA) (These areas require a report to the Congress within three years of the date of the CWA.)

- Carson-Iceberg Planning Area - 9,700 acres (approximate acreage)
- Hoover Planning Area 49,200 acres (approximate acreage)

Further Planning Areas

The following areas were identified in the CWA to be retained for further study:

Hoover Further Planning Area	54,100 acres
Sweetwater Further Planning Area (California portion only)	40,000 acres

Sweetwater has 40,000 acres in California and 8,700 acres in Nevada.

PROTECTION

The Sierra

The most active fire area is in the Sierra. Most emphasis in terms of organization and suppression forces is directed there. The area has become increasingly impacted by urban development, recreational use, and timber harvest including fuelwood gathering. The area also includes three designated wildernesses. The following is a statistical breakdown of fire activity for the 10-year period 1970 to 1979:

1. Fires (1970-1979)

Fire by Cause		Fire by Time of Year	
Human Caused	274	Jan. - May	56
Lightning Caused	792	June - Sept.	935
		Oct. - Dec.	75
Total Fires	1,066		1,066

2. Size Class Distribution

A	B	C	D	EFG
1/4 Ac/less	2/5 Ac-9 Ac.	10-99 Ac.	100-299 Ac.	300 + Ac.
942	102	10	5	7

3. Acres Burned - 1970-1979 Period

Human Caused	2,750
Lightning Caused	3,202

Fire activity in the decade beginning in 1981 has increased significantly. Wildfires have burned 7,000 acres during the period 1980 to 1984, for an annual average of 1,400 acres. Most of these fires were adjacent to the urban interface. Statistics indicate that 74 percent of fire activity in this area is related to active summer thunderstorm periods.

Generally, fire occurrence during the analysis period has decreased. The period 1970 to 1974 averaged 120 fires per year, while the 1975 to-1979 period had an average of 92 fires per year. Although public use has increased steadily from 1970 through 1979, the number of human-caused fires has risen only slightly while averaging 26 per year from 1970 to 1974 and 28 per year from 1975 to 1979. Increased and improved prevention programs have helped to limit the occurrence of human-caused fires, in spite of increasing use in the Sierra. A reduction in prevention programs would likely result in a marked increase in human-caused fires.

Central Nevada

Central Nevada has not posed significant fire management problems in the past. The area has little developmental change in recent years, the main increase being mining activities. Fire occurrence has not been significant, but a few major and troublesome fires have occurred.

1. Fires (1970-1979)

Fire by Cause		Fire by Time of Year	
Human Caused	32	Jan. - May	4
Lightning Caused	67	June - Sept.	90
		Oct. - Dec.	5
Total Fires	99		99

2. Size Class Distribution

A	B	C	D	EFG
1/4 Ac/less	2.5 Ac-9 Ac.	10-99 Ac.	100-299 Ac.	300 + Ac.
64	25	7	1	2

3. Acres Burned - 1970-1979 Period

Human Caused	1,191
Lightning Caused	151

Mount Charleston

Mount Charleston is another area subjected to critical increases in the urban-wildland interface. Human activity, fire, and private property within the two developed canyons of Kyle and Lee are of major concern. Fire prevention and suppression efforts are closely coordinated with the BLM and Nevada Division of Forestry (NDF). An interagency helicopter is based at North Las Vegas. The District has had several large fires (the largest burned

6,400 acres in 1981) and is the only area of the Forest where human-caused fires outnumber lightning-caused fires.

1. Fires (1970-1979)

Fire by Cause	
Human Caused	118
Lightning Caused	85
Total Fires	203

Fire by Time of Year	
Jan. - May	13
June - Sept.	163
Oct. - Dec.	27
	203

2. Size Class Distribution

A	B	C	D	EFG
1/4 Ac/less	2-5 Ac-9 Ac.	10-99 Ac.	100-299 Ac.	300 + Ac.
181	18	2	2	0

3. Acres Burned - 1970-1979 Period

Human Caused	538
Lightning Caused	14

Human-caused fires during the 1970s made up 58 percent of all occurrences. While 56 percent of all fires occurred during the first five years, there was an equal distribution of Class C or larger fires. The most significant change during the period was one of increased recreational use, which accounts for the high number of human-caused fires.

WATER AND SOILS

Water Quantity

Nevada is the most arid state in the nation. Due to this moisture scarcity, there is always a greater requirement for water than there is an available supply.

Approximately 70 percent of available water is produced on less than 14 percent of the total area of the Great Basin. The Toiyabe annually produces approximately 949,000 acre feet of water.

Water Rights

The Forest Service water rights policy is to secure water needed for management of the National Forest in the most effective and efficient manner consistent with applicable state and federal laws.

The Toiyabe has filed approximately 450 claims for water rights with the State of Nevada since 1979. It appears that additional claims will have to be filed with the state in order to meet Forest Service policy and to adhere to Nevada State water law. On the California portion of the Toiyabe, it is anticipated that few additional sources will be inventoried due to the status of various decrees on the Carson, Walker, and Truckee rivers. (See Chapter IV for instream flow requirements.)

Water Storage and Impoundments

There are sixteen dams under special use permit with reservoirs that total 805 surface acres. All of these are located in the Sierra division. A few other dams are located entirely on private or state lands within the Forest boundary. One small one-acre reservoir is located on the Mount Charleston division.

Municipal Watersheds

There are nine municipalities adjacent to the Toiyabe served by watersheds. Management consideration has provided for protection of water quality, quantity, and timing of the flow on these watersheds. Formal user agreements exist with only two of the nine municipalities served by the watersheds.

Water Quality

An estimated 98 percent of the runoff originating within the Toiyabe meets state and federal water quality standards. Major exceptions are Leviathan and Bryant creeks below the abandoned Leviathan sulphur mine located on private land within the National Forest. Mine effluent and nonpoint source pollution associated with the mine waste dumps have rendered the receiving waters unfit for beneficial uses.

Soil Types

A broad spectrum of soil types occur due to wide variations in geology, climate, topography, and vegetative communities. The Forest has a range of soils supporting vegetation from salt desert shrubs to subalpine communities. This is typical of the Great Basin Physiographic Province.

Soil Productivity

Soil productivity on the Toiyabe is associated with maintaining productive surface horizons. Approximately 20 percent of the soils is not within soil tolerance limits set at 500 pounds/acre/year for granitic soils and 300 pounds/acre/year for all other soils. The 20 percent in unsatisfactory condition is primarily due to rangelands in unsatisfactory condition and the concomitant lack of ground cover.

For the most part, landscapes of the Forest are stable and have been stable for thousands of years. Mass failure, either natural or man-induced, has not been a significant problem.

Geologic Hazards

Identified geologic hazards on the Toiyabe are few, though there is evidence of past fault zones and slump areas.

There is, however, a great potential for earth movement. Conditions conducive to mass movement, such as clay soils and steep slopes, do occur.

Excessive Soil Erosion

Natural erosion rates on the Forest are generally low under satisfactory vegetative conditions. Management practices that allow soils to remain bare would lead to significant erosion.

CULTURAL RESOURCES

Approximately 1,500 cultural resource sites have been identified on the Toiyabe. Historical properties consist of dumps, building foundations, rock and wooden structures, and various artifacts related to early settlement, mining, ranching, and timber industries. Prehistoric resources include isolated artifacts and features, lithic scatters, quarries, rock art, seasonal camps, and residential sites.

Currently, two sites on the Forest, Gatecliff Shelter and a portion of the Belmont District, are listed in the National Register. The Forest has a number of potential National Register sites including Alta Toquima, which has been determined eligible and is located within the recommended Mount Jefferson Wilderness. Approximately 400 cultural resource projects have been conducted on approximately 88,000 acres. This translates to the fact that roughly 2.8 percent of the Forest has been inventoried.

LAND OWNERSHIP AND LAND USES

Gross acreage within the Toiyabe National Forest boundary is approximately 3,326,966 acres, of which approximately 155,261 acres are in nonfederal ownership. Most nonfederal lands are within the Sierra Nevada division. The pattern of land ownership often creates problems for the nonfederal land owner as well as for the Forest Service.

In addition to nonfederal land ownership, there are approximately 700 special use permits encumbering 90,000 acres of National Forest System lands. Approximately 70 percent of these permits are on the Carson and Bridgeport districts. Utility corridors are a significant existing and potential use within the Sierra Nevada Range. Current policy for utilities is to minimize additional impacts and proliferation of separate rights-of-way in common, to the extent practical.

An additional 53,000 acres of National Forest System lands are encumbered by some 150 withdrawals. These withdrawals include administrative sites, recreation sites, reclamation projects, research natural areas, stock driveways, and archaeological sites.

The Forest has over 3,700 miles of property line; roughly 1,800 miles of exterior Forest boundary and 1,900 miles of interior boundary. Less than one percent of the property line is posted to standard. To locate and post to standard the 3,700 miles of property line would require over 14,000 corners of which fewer than 1,600 corners are currently established.

Currently there are few lands within the Toiyabe National Forest boundary available for disposal by land exchange. The primary exchange base for disposal of federal lands has been land located outside the Forest boundary and managed by the BLM.

FACILITIES

The Toiyabe National Forest has a variety of facilities, maintained by both the Forest Service and private permittees. These include roads, trails, bridges, dams, ski lifts, administrative sites, buildings, and water and sewer systems - all of which provide for the development and use of Forest resources. Facilities represent a large capital investment requiring significant amounts of time and money for operation and maintenance.

Structures and Bridges

Seventy-seven buildings exist on the Forest. The total includes: eight warehouse buildings (two are leased), 12 office buildings (five are leased), nine special purpose buildings, and 48 structures for housing government employees. Two leased office buildings are deficient and are scheduled for relocation. A number of housing structures are not habitable and/or are in need of repairs and corrections to conserve energy and become hazard free. Most structures, however, are safe and habitable as long as they are maintained and upgraded.

There are 30 bridges on the Forest, three of which are trail bridges. These bridges are safe and generally well maintained.

Roads

The existing Forest Transportation Development System has nearly 3,300 miles of Forest development roads. These roads were constructed and are maintained by a number of federal, state, and local agencies or by individuals under permit. Many of the existing roads on the Forest are inadequate and present problems from a maintenance and watershed standpoint. Approximately 25 percent of the system has been functionally classified as "arterial-collector."

Roads built for mining exploration have added significantly to the system. Only those mining roads that are needed for National Forest management, as documented by the Forest Development Transportation Facility Schedule, are placed in the system.

Transportation and Utility Corridors

Growth in Nevada, particularly along the eastern slope of the Sierra but also around the Las Vegas District, has brought an increasing demand for energy and communications. New power-generating plants are planned throughout the West including Nevada.

The first priority is to expand existing corridors and sites to utilize their maximum capacity within environmental and site limits. This will be done before any new corridors or sites are opened. The Western Regional Corridor Study, with proposals to 1990, will be used in the evaluation to determine future needs.

LAW ENFORCEMENT

National Forests are held in proprietary jurisdiction, with the Forest Service responsible for enforcing federal laws and regulations related to natural resources and public use. This responsibility cannot be delegated to other agencies. State and local governments retain all of their law enforcement authorities and responsibilities on National Forest System lands. Federal agencies, with specific enforcement responsibilities, operate on National Forest System lands as needed.

Law enforcement activities begin with educating the public in the proper use of the Forest, and the design of areas and facilities in a manner calculated to discourage illegal and undesirable behavior. Actual enforcement incorporates preventive patrols, interagency cooperation, and criminal and civil actions where appropriate to protect the Forest and the public.

Theft of timber products (Christmas trees and fuelwood), incendiary and negligently-caused fires, fraudulent leasing of grazing privileges, mining abuses, and vandalism are significant problems.

MINERALS AND ENERGY

Availability

The Forest is known to contain extensive mineral resources. Although energy resources have not been developed, a moderate potential exists for production of oil/gas, geothermal, and uranium resources.

With minor exceptions, all minerals within the Toiyabe are owned by the United States and are subject to disposal under three categories--locatables, leaseables, or common variety. Public domain lands, unless withdrawn, are open to mineral exploration and development under the 1872 Mining Law.

Locatables

Approximately 10,500 mining claims have been staked and recorded [Federal Land Policy Management Act (FLPMA)] within the Forest; actual numbers could exceed

15,000 claims. The general geographic breakdown of recorded claims, as of 1981, follows.

Sierra Nevada 1/	2,900 claims
Central Nevada	
Paradise Range	1,100 claims
Shoshone Range	700 claims
Toiyabe Range	1,300 claims
Toquima Range	4,400 claims
Monitor Range	100 claims
Mt. Charleston	000 claims
Total	10,500 claims

Ending fiscal year 1981, there were 252 active operating plans pursuant to 36 CFR 228 on the Forest. The general geographic breakdown of the active operating plans follow 2/:

Central Nevada	186 operating plans
Sierra and adjacent lands in Mineral County, Nevada	66 operating plans
Las Vegas	-0-
Total	252 operating plans

1/ Includes California

2/ Data is displayed on maps in the Forest Supervisor's Office.

Submission of operating plans has increased at approximately 50 percent per year during the last five-year period.

There are a total of 15 producing mines with an estimated annual project value of approximately 108 million dollars.

Gold - Most of the gold being mined on the Toiyabe is from large, near-surface, low-grade disseminated gold deposits. The mining is by open-pit methods.

Silver - Most of the silver produced from the Toiyabe is in conjunction with gold mining operations.

Barite - During 1981 it was estimated that 350,000 short tons of barite were produced from the Toiyabe. This amounts to a little over 10 percent of the total barite consumed in the US during 1981.

Magnesium Compounds (Magnesite and Brucite) - One large open-pit mine on the Forest in central Nevada (Gabbs, Nevada) produces an estimated 300,000 short tons of magnesite and brucite per year.

Iron - The Forest has one small iron mine located in central Nevada. The mine produces an estimated 2,000 long tons of iron ore per year which is used in the basic refactory industry in Gabbs, Nevada.

Molybdenum and Tungsten - Prospecting and exploration for these twc commodities is expected to remain strong through 1986. No properties on the Forest are expected to come into production before 1986.

Uranium - Exploration on the Forest was strong up to 1981, but has fallen off dramatically due to environmental and safety concerns associated with the use of nuclear fuels for energy production, the mining of uranium ore, and the handling and disposal of nuclear waste. No properties on the Forest are expected to come into production in the forseeable future.

Gemstones - Turquoise, variscite, tourmaline, beryl, agate, picturestone, and quartz crystals are found on the Forest.

Leaseables

Oil and Gas - There are 50 oil and gas leases (or leases pending) within the Forest. These include 30 leases in central Nevada and 20 on Mount Charleston. None exist in the Sierra Nevada.

Geothermal - There are 21 geothermal leases (or leases pending) within the Forest, totaling approximately 47,000 acres. These are evenly distributed between the Sierra Nevada districts and central Nevada.

Coal - There are no known coal reserves on the Forest. The potential for coal being found and produced on the Forest is remote.

Common Variety

Sand, building stone, and gravel are considered common varieties or salable mineral materials. These materials are normally dispersed to private parties by competitive or noncompetitive sales.

RESEARCH NATURAL AREAS (RNA)

The Research Natural Area (RNA) is a US Department of Agriculture (USDA) designation that recognizes the importance of setting aside certain areas for research and educational purposes.

Existing RNAs

Carpenter Canyon (Mount Charleston) - vegetation types: bristlecone pine, interior ponderosa pine, pinyon pine, alpine meadows and barren. The area is approximately 2,500 acres.

Mount Jefferson (central Nevada) - vegetative types: aspen, limber pine, subalpine meadows. This area is approximately 3,490 acres.

Sweetwater (western Nevada) - vegetative types: pinyon/juniper, Great Basin sagebrush. This area is approximately 2,235 acres. This RNA has been heavily disturbed by mining activity and no longer meets the objective of the original research natural area classification. This area will be declassified and another established to replace it.

Proposed RNAs

Babbitt Peak has been evaluated jointly with the Tahoe National Forest. This area includes vegetative types of Washoe pine, red fir, western white pine, and mountain hemlock. This area is approximately 960 acres on the Toiyabe and 2,500 acres on the Tahoe.

NATIONAL NATURAL LANDMARKS (NNLs)

The National Park Service (NPS) maintains a national inventory of significant natural landmarks. The Ichthyosaur Paleontologic State Monument is a registered natural landmark. The area is located on National Forest lands in central Nevada and operated under special use permit by the Nevada State Department of Parks. Additionally, the NPS has inventoried potential additions to the register. Potential sites on the Forest include:

NEVADA

Mount Jefferson
Sweetwater
Carpenter Canyon
Arc Dome
Wild Granites

CALIFORNIA

Sweetwater Mountains
Monitor Pass
Headwaters of the W. Walker River Drainage
Hope Valley
Dana Plateau
Carson River, West and East Fork
Silver King Creek

AIR QUALITY

Pollution of the air resulting from Forest or management activities is not a critical problem on the Toiyabe. The only Clean Air Act Class I area is the Hoover Wilderness. The remainder of the Forest is Class II.

Prescribed burning has occurred away from urban development and at high elevations. As a temporary emission source, it does not significantly deteriorate ambient air quality. Prevailing westerly and southwesterly winds contribute to good smoke dispersal. Burning activities are associated with logging and fuelwood slash removal, as well as range, wildlife, and fisheries habitat improvement. Wildfire continues to be a major source of smoke and can contribute significantly to air pollution.

Prescribed fire to enhance diversity of Forest ecosystems will continue because it is the most cost-effective and energy-efficient treatment in most cases. Increased use of prescribed fire will occur in suitable areas of the Forest.

MAJOR VEGETATIVE COMMUNITIES

The following is a brief description of the major vegetative communities of the three divisions comprising the Forest.

Sierra Front - This division supports a variety of important commerical tree species including Jeffrey pine, white fir, California red fir, western white pine, and lodgepole pine. Lesser amounts of sugar pine, incense cedar, and mountain hemlock exist. Aspen is limited. There are extensive stands of pinyon/juniper, sagebrush, bitterbrush, mahogany, manzanita, and ceanothus.

Central Nevada - Vegetation is predominately pinyon/juniper and sagebrush-grass types. Aspen occurs frequently at higher elevations.

Mount Charleston - Vegetation includes ponderosa pine, white fir, bristlecone pine, limber pine, oak, pinyon/juniper, aspen, and mahogany.

RANGE

The Forest has 122 livestock allotments that are managed under one of four levels of management, and 14 Wild Horse and Burro Territories that are under extensive management.

Based on grazing capacity estimates, potential for grazing or browsing by domestic livestock will be 110,000 Animal Unit Months (AUMs) by the Third Planning Decade. Under current management, domestic livestock use is 98,500 AUMs and wild horse and burro use is 4,300 AUMs. Current management direction could, by the year 2030, increase livestock use to 102,000 AUMs and decrease wild horse and burro use to 4,200 AUMs.

The wild horse population has decreased on eight of the 14 territories.

TIMBER

Lands capable, available, and tentatively suitable for timber production were determined in accordance with regulations in 36 CFR 219.14 and documented in the timber section of the AMS.

Three different timber management situations exist on the Forest. The Sierra Nevada supports commercial stands of Jeffrey pine, true firs, and lodgepole pine, with lesser stands of white pine and mountain hemlock.

The Toiyabe has been selling six million board feet of timber annually, primarily in sawlog-size material from the Alpine County and Dog Valley areas. Other districts provide products such as posts, poles, Christmas trees, pinyon nuts, and firewood.

The primary sivilcultural system used in recent years has been shelterwood. Removal cuts have been made in stands with good existing understories of saplings and poles. These understories have been thinned by removal through sawlog and fuelwood operations.

Future Condition of Timber Stands Under Current Management

The estimated condition of timber stands on the Toiyabe is decribed below for the 200-year planning period:

Jeffrey Pine

a. Within recommended wilderness - The pine continues toward older age classes.

b. Nonwilderness areas - Age class distribution improves although there remains an excess acreage of small sawtimber 70 to 90 years of age.

Mixed Conifer

a. Within recommended wilderness - The mixed conifer continues toward older age classes.

b. Nonwilderness areas - Age distribution improves except there is a shortage of small sawtimber 70 to 90 years of age.

Lodgepole Pine

Because there is no regulated harvest, the lodgepole pine working group moves toward over-maturity and age class distribution becomes greatly unbalanced after 200 years.

Firewood

Demand for firewood has increased dramatically in the last several years.

Current amount supplied is at a level which will probably continue for at least the next 20 years along the Sierra front and in the Mount Charleston area. Should the amount supplied be increased to a level equal to the amount needed per year, available firewood would be exhausted in several years time. Demand is currently greater than supply, and this should continue to increase. Some of this increased demand will be met on neighboring forests or other jurisdictions. The amount available for harvest in central Nevada is higher than the quantity demanded, primarily because of low population density.

Pinenuts

Production of pinenuts is cyclic and primarily dependent on weather conditions. Therefore, the Forest has little control on this output other than to open up more-marginal stands. However, much of the potential harvest on these stands is needed by wildlife for food and for regeneration of trees. Demand is currently less than the amount of pinenuts offered and should remain fairly constant.

Miscellaneous Products

Miscellaneous products include posts, poles, and Christmas trees. There is an increasing demand for poles for the house log industry and for fence posts. Currently, there are no local mills that can handle the small size of these logs to convert them into lumber.

Christmas tree demand is high throughout the Forest. In the northern Sierra front, the resource is inadequate to meet the existing demand. The Las Vegas District also has a minimal number of trees that could be cut. The Bridgeport, Austin, and Tonopah districts allow harvest of pinyon pine trees. The BLM also allows harvesting of pinyon adjacent to the Bridgeport and Carson districts. Overall, current availability meets the demand.

SENSITIVE PLANT SPECIES

Currently, 56 plant species on National Forest System lands are classified as sensitive which reflects both state and National Forest concerns and entails protective status. Eight occur in California and 48 occur in Nevada. None of these plants are listed as endangered or threatened nor have been formally proposed for listing. Eight of the 48 plants are "candidate status." The others are "watch status." (See Table on sensitive plants)

Sensitive plants are poorly inventoried. Intensive work has been completed on sensitive plants in the Sweetwater Mountains, including the Wellington Hills. Extensive collections have been made on the Toiyabe, Toquima, and Monitor ranges of central Nevada. With these exceptions, including some isolated collections on Mount Charleston, much remains to be done to obtain an adequate survey and assessment of sensitive plants Forest-wide.

Currently, field work occurs during the environmental analysis of each ground disturbing activity to determine if known or suspected locations of sensitive plants and their habitat occur.

WILDLIFE AND FISH

The Forest has a variety of game and nongame wildlife and fish species common to the Great Basin. Of particular interest are the Paiute and Lahontan cutthroat trout. Fish, such as brown, brook, and rainbow trout, as well as nongame fish, occupy the 1,660 miles of perennial streams on the Toiyabe. Mule deer, desert bighorn sheep and elk (central Nevada and Las Vegas), antelope, mountain lion, sage grouse, blue grouse, and mountain quail are some of the important game species. In addition to game species, the nongame species provide important social and ecological values.

Current Wildlife & Fish Use (By ten year period)
Wildlife & Fish User Days - Thousands (MWFUDS)
Planning Period (Decade)

	1	2	3	4	5
Fisheries	3,293	386,752	4,311	4,311	4,311
Wildlife	1,723	2,079	2,309	2,309	2,309

Threatened and Endangered Species

Two species on the Toiyabe are federally classified as threatened: the Lahontan cutthroat trout and the Paiute cutthroat trout. The peregrine falcon and the bald eagle, federally classified as endangered, are considered migrants or visitors, using the Toiyabe during migration and in the winter months. Primary efforts in the threatened and endangered species program have been to assist and cooperate with the state fish and game agencies in the recovery of Lahontan and Paiute cutthroat trout.

Big Game Species

The Toiyabe and the Nevada Department of Wildlife (NDOW) have reintroduced bighorn sheep on the Tonopah Ranger District and have augmented the elk herd on the Las Vegas District.

Six migrating deer herds, the Casa Diablo, Mono Lake, East Walker, West Walker, Carson River, and the Loyalton-Truckee, are impacted by urban growth and private land development. Loss of winter range and the disruption of traditional migration corridors result from such impacts.

Management Indicator Species (MIS)

The NFMA regulations require that the Forest maintain viable populations of all vertebrate wildlife and fish species native to the Forest. In order to implement this requirement, Management Indicator Species (MIS) have been selected to represent the significant ecosystems on the Forest and associated wildlife and fish that depend upon those ecosystems. These species will be monitored, as necessary, to meet NFMA requirements. The criteria below were used to select the MIS. These species were selected in consultation with the University of Nevada, Nevada Department of Wildlife, and California Department of Fish and Game. (See monitoring plan in Chapter V for list of MIS.)

1. Threatened or endangered species (federal list)
2. Threatened or endangered species (state list)
3. Considerable concern for species related to laws and regulations
4. Species for which there are conflicts, concerns, or issues
5. Species for which the planning area comprises a majority of habitat or use
6. Species for which management activities could significantly impact habitat or foreclose future options
7. Species representative of environmental suitability for other species
8. Species having significant economic value

State Fish and Wildlife Agency Objectives

The primary state agencies concerned with wildlife and fish objectives on the Toiyabe are the Nevada Department of Wildlife and the California Department of Fish and Game. Public Law 93-452 (Sikes Act), provides for cooperation between state and federal governments regarding habitat managment on federal lands. In accordance with this Act a program for managing wildlife and fish has been developed for National Forest System lands in California and Nevada. This program provides for goals, objectives, and "Action Plans" for the respective state wildlife agency and the Forest Service.

Wildlife and Fish Habitat Management

Emphasis in wildlife and fish habitat management has been placed on improving habitat through pinyon/juniper removal, and restoring key meadow and riparian habitats through use of human resource programs such as the Youth Conservation Corps. Introduction of elk in central Nevada was made possible by the habitat improvement work accomplished through human resource programs. The loss of human resource programs has sharply curtailed the Forest's ability to complete and maintain labor-intensive habitat improvement projects the last few years. Annually, the Forest has improved 700 to 800 acres of habitat through vegetative manipulation and has constructed an average of six to 10 habitat improvement structures.

FOREST INSECTS AND DISEASES

The principal tree insects and diseases affecting the Toiyabe are Jeffrey pine beetle, mountain pine beetle, western pine beetle, roundheaded pine beetle, dwarf mistletoe, root and heart rots, and Elytroderma needle disease.

Jeffrey pine beetle is the most destructive pest of Jeffrey pine. Epidemics of this beetle have cycled through the host type for many years, with the current outbreak starting in Dog Valley in the early 1970s. By 1978, widely scattered tree killing occurred throughout the host type from Mount Ina Coolbrith, northwest of Reno, south to Bridgeport.

Mountain pine and western pine beetles have been killing ponderosa and lodgepole pine in the Lake Tahoe Basin since the 1950s. Current infestations are causing group tree mortality along the eastern shore of Lake Tahoe.

Western pine beetle has been active in the ponderosa pine type on Mount Charleston since 1952. Mature and overmature ponderosa pine in the Spring Mountains were killed by roundheaded and western pine beetles following a drought in 1966. This infestation continued through 1973 and caused heavy losses in developed recreation sites. Current infestations are causing losses in the Lee Canyon area.

Douglas fir tussock moth reached outbreak proportions in two isolated areas of southern Nevada in 1972. Heavy defoliation of white fir stands occurred near a Boy Scout Camp in the Spring Mountains and on sixty acres in the Virgin Mountains. The outbreaks declined by 1974. Some heavily mistletoed trees succumbed from heavy defoliation and bark beetle attacks.

Dwarf mistletoe causes significant losses to infected stands. A roadside survey of the Toiyabe in 1978 indicated that 35 percent of ponderosa pine and Jeffrey pine and 17 percent of lodgepole pine types were infested with dwarf mistletoe. White fir is also heavily infected with dwarf mistletoe throughout the Forest. In addition to causing significant losses in commercial timber stands, dwarf mistletoe infection can have severe impacts on trees in recreational areas. Heavily infected trees are susceptible to bark beetle attack.

Root rots caused by Fomes annosus and Armillaria mellea cause mortality and growth loss in localized centers. Fomes annosus centers have been found in ponderosa pine, Jeffrey pine, and white fir stands in the following locations: Roberts Canyon, Lee and Kyle canyons, Willow Creek, Shingle Mill Flat, Hope Valley, Bootleg Canyon, Dog Valley, and Incline Village on the north shore of Lake Tahoe. Armillaria mellea was found to be prevalent in hardwood and white fir stands in the Lake Tahoe Basin.

All species of trees on the Forest are suspectible to one or more of the various heart rot fungi. The fungi infect trees through dead branch stubs, wounds, and fire scars. These rots eventually destroy the heartwood of infected trees, resulting in loss of volume and causing structural weakness of the trees affected. Such trees are subject to wind and snow breakage and are particularly hazardous in recreational and residential areas.

Elytroderma needle disease can reduce growth and vigor, and increase mortality of Jeffrey pine, ponderosa pine, and lodgepole pine. Although the disease usually occurs at low levels on the Forest, it can build up to epidemic proportions in some years on some sites. A study of such an outbreak in Jeffrey pine in the Lake Tahoe Basin showed significant reduction in growth and increased mortality resulting from severe infection. In some cases, mortality was associated with Jeffrey pine beetle attack.

The identified need of thinning adequate acreages to keep stands growing at good growth rates can be tied to stand hazard rating for bark beetle attack to ensure that highest hazard stands are thinned first.

Dwarf mistletoe control programs have been a part of Toiyabe silvicultural practices for several years. However, these have been accomplished only where thinning or timber sale activity resulted in stand manipulation.

Fomes annosus infection centers need to be identified, evaluated, and monitored to prevent future spread of this root rot. In areas identified as infection centers, new infections can be prevented by treating freshly cut, uninfected stumps with Borax. Control measures for Fomes annosus need to be evaluated to determine the most cost-efficient method.

Aerial surveillance involves annual stechmap flights by the Regional pest management specialists to determine the extent and intensity of existing infestations, as well as, new outbreaks of insects and/or diseases. These surveys are supplemented with ground observations by Forest personnel. Evaluations may be followed by treatment activities. Historically, treatment methods involve fuelwood cutting and/or tree removal. Pesticide treatment has been limited to high value sites such as campgrounds and summer home sites.

Prevention efforts include integrated pest management techniques such as thinning of overstocked stands to minimize bark beetles and mistletoe.

RANGELAND INSECTS AND DISEASES

The diversity of rangeland insects and diseases is great. However, insects and diseases are a poorly understood component simply because of the low acre value of rangelands. The return per acre has not supported their control or study.

Many of the insects may be classified as "pests" of rangeland, but only a few may be regarded as serious "pests." The chewing insects of shrubs are most conspicuous, whereas, the sucking insects of shrubs largely go unnoticed. Each year, minor outbreaks occur, but no major outbreaks have occurred. The Great Basin tent caterpillar, which defoliates bitterbrush, is monitored because of its potential to impact this important browse shrub. Another important insect monitored is the sagebrush defoliator, which has the potential to kill or seriously injure sagebrush over large areas.

Chewing insects are the most apparent of those types associated with grasses and forbs. Although outbreaks occur in Nevada, outbreaks seldom occur on the Forest. Chewing insects of importance are grasshoppers, Mormon crickets, and range caterpillars. Several kinds of ants are present. The conical mounds, of western harvester ants are surrounded by large denuded areas being both quite visible and numerous. These ants undoubtedly remove a great amount of vegetation each year including the production of important range plants.

Damage to grasses and forbs by sucking insects is difficult to detect. However, outbreaks have been minor. The sucking insects of importance are leafhoppers, aphids, scales, and black grass bugs. The black grass bugs receive special attention because of their ability to do an enormous amount of damage to stands of wild rye grass and crested wheatgrass. These are two important range grasses which are extensively present on the Forest.

Off the Forest control of grasshoppers and Mormon crickets is an ongoing project in Nevada, conducted by the Animal and Plant Health Inspection Service (APHIS). The Forest Service periodically meets with APHIS to assess the need for control of these particular insects as well as others on National Forest System lands.

SOCIAL AND ECONOMIC ENVIRONMENT

ZONE OF INFLUENCE

The Toiyabe National Forest administers 3,171,705 net acres of land in 10 Nevada counties and seven California counties. The following counties represent the primary zone of influence for the Forest: Carson City, Clark, Douglas, Eureka, Lander, Lyon, Mineral, Nye, and Washoe in Nevada; and Alpine, Mono, and Sierra in California. A secondary zone of influence includes Churchill, Esmeralda, and Storey counties in Nevada; and the central/southern California area.

The secondary zone includes areas that are not directly affected by the actions of the Toiyabe. However, the Toiyabe provides recreational opportunities and fuelwood for many residents within this zone.

The Forest's primary zone of influence has a population of over 750,000. Of this, 741,021 reside in Nevada, which is 93 percent of that state's population. In the California counties there are 12,747 residents, which is only .05 percent of that state's population. Clark and Washoe counties in Nevada, which contain the cities of Las Vegas and Reno respectively, have a population of over 655,000, which is 82 percent of the population of Nevada. These two cities are the major trade centers for much of western and southern Nevada, and eastern California. The other counties, with the exception of Carson City, tend to be rural in nature and are dependent on the large population centers for most services.

Even though Nevada is commonly thought of as a rural state, with a population density of 7.2 people per square mile, population densities of the Nevada counties in the primary zone vary from a high of 209.3 people per square mile in Carson City to a low of 0.3 in Eureka. Generally, the counties in central Nevada have low population densities, while Clark, Douglas, and Washoe have population densities of 57.1, 25.9, and 29.3 respectively.

In California, the counties in the primary zone of influence also have low population densities of 1.5, 2.8, and 3.2, people per square mile for the counties of Alpine, Mono, and Sierra, respectively.

All of the counties in Nevada have a large percentage of land in federal ownership. Douglas County has the least amount with 37.9 percent, while Nye County has the greatest amount with 92.7 percent. The average for the nine counties is 72.9 percent.

In California, the percentage of federal ownership ranges from a high of 88.7 percent in Alpine County to a low of 69 percent in Sierra County.

Minorities make up 17.8 percent of the population in the primary zone. The largest group consists of Blacks at 6.3 percent, followed by Hispanics at 6.1 percent, Asians with 1.7 percent, and Native Americans with 1.3 percent. Most of the zone of influence minority population is in Clark and Washoe counties, and the cities that have the largest populations are Las Vegas and North Las Vegas. Minority populations are generally congregated in the more urban areas, with the exception of Native Americans who are located in both urban and rural areas, and on reservations and colonies.

Hispanic Americans are also located in mostly rural counties and, along with Native Americans, comprise the significant minority groups in less populated areas. The influence on Native American colonies and reservations by the National Forest is probably most pronounced in the Alpine, Dresslerville, and Woodfords colonies and the Yomba Reservation due to their proximity to Forest Service lands.

GEOGRAPHIC UNITS OF ANALYSIS

The counties comprising the primary zone are grouped into four broad units based on geographic continuity and similarity of resource outputs. These units are: northern Sierra, which includes the counties of Carson City, Douglas, and Washoe in Nevada, and Alpine and Sierra in California; southern Sierra, which includes the counties of Lyon and Mineral in Nevada and Mono in California; central Nevada, which includes the counties of Eureka, Lander, and Nye; and Las Vegas, which is in Clark County.

Northern Sierra

This area is part of the Sierra Front which supports a variety of important commercial tree species including Jeffrey pine, white fir, California red fir, western white pine, and lodgepole pine. Aspen is limited. There are extensive stands of pinyon/juniper at the lower elevations.

The Toiyabe National Forest has averaged about six million board feet (MMBF) cut annually for the last 10 years. Most of this is from the northern Sierra part of the Forest. Of the mills processing timber that are located in or near the zone of influence, only the mill in Gardnerville, which employs about 100 workers, receives about 80 percent of its sawtimber from the Toiyabe. The other mills receive most of their sawtimber from adjacent forests with larger allowable cuts (i.e., Eldorado, Tahoe, and Plumas) and to a smaller degree, from private lands.

The Forest is currently ranked 19th nationally for recreational use on National Forest System lands (second in Region 4), with an average over the past three years of 2,947 MRVDs a year. Of this, 21.2 percent of the recreational use occurs in the northern Sierra unit. Most of the recreational users of the northern Sierra originate from central California, the San Francisco Bay area, Reno, and Carson City.

Overall, the Toiyabe National Forest has little economic impact on this area. It is estimated, from an input/output computer model called IMPLAN, that only 0.3 percent of the people employed in this area depend on outputs from National Forest System lands. The income earned by them is also only 0.3 percent of the total income.

Southern Sierra

This area is similar in vegetation to that of the northern Sierra unit. Together the southern and northern Sierra produce most of the water necessary to support western Nevada. This includes the sources of the Carson and Walker river systems.

Of the Forest's total recreational output, 44.3 percent of the RVDs occur in the southern Sierra and most of these users originate from southern California.

According to IMPLAN estimates, outputs produced here have more effect on local communities than is the case in any other unit. It is estimated that 4.7 percent of the people employed in this area depend upon outputs from National Forest System lands. The income earned by them is only 3.7 percent of the total income.

The area that would receive the greatest impact in this unit would be Bridgeport, California, in Mono County. This community is highly dependent upon users of the recreational, wildlife, and fisheries values of the Forest. Direct effects, along with a majority of the indirect effects, of any change in these outputs would probably be centered in this town. To a lesser extent, grazing is an important activity in the southern Sierra unit.

Central Nevada

This unit is typical of the Basin and Range Physiographic Province in Nevada. The climatic conditions are generally harsh and vegetation consists of salt-desert shrub, pinyon-juniper, aspen, mountain mahogany, meadow, sagebrush-grass, and limber pine. Domestic livestock grazing, recreation and mining of gold, silver, uranium, and barite are the principal activities. The vicinity of Tonopah and Austin has also been considered as potential siting for MX missiles.

Of the Forest's total recreational output, 13.9 percent of the RVDs are spent in this area with most of the users originating from central Nevada.

It is estimated that only 2.6 percent of the people employed here depend on outputs from National Forest System lands. The income earned by them is only 1.5 percent of the total income. Grazing and dispersed recreational activities have the most impact, and a change in grazing use would have its greatest impact on the town of Austin.

Las Vegas

This unit includes the 58,000 acres of National Forest System lands around Mount Charleston. It provides an environment from the low desert to the subalpine.

There has been no livestock grazing or commercial timber harvest on this unit for the past two decades and the predominant use is for recreation.

A little over 636,500 RVDs, or 21.6 percent of the Forest's total recreational output, occurs in this area. This shows the intense recreational use placed on only 58,000 acres, which includes use of the Lee Canyon Ski development. Most of the users originate from Las Vegas Valley.

In terms of the impacts of Forest Service actions on local communities, it is estimated that only 0.2 percent of the labor force in Clark County depends on outputs from the Forest. The income earned by them is also 0.2 percent of the total income. The only real impact that any Forest Service action could have on local communities would be on those businesses and services that are oriented toward the recreationist.

Fuelwood Demands

In all the analysis units there is a significant demand for fuelwood. This demand has been increasing, primarily due to the increased cost of heating fuels. Supply Forest-wide, however, is limited by poor access and lack of suitable woodcutting sites. This is especially true in the Sierra influence zones, where most of the demand occurs. In the central Nevada unit, the supply exceeds the demand, but it is limited by poor access. There are opportunities for the public to obtain firewood from adjacent BLM and private lands.

BENCHMARK DEFINITIONS

Benchmark level analyses were performed to: (1) determine supply potentials for five resources (developed recreation, dispersed recreation, wilderness, timber, and range); (2) derive reference points within which Toiyabe National Forest alternatives [displayed in the accompanying Final Environmental Impact Statement (FEIS)] could be developed; and (3) define the range within which feasible alternatives could be formulated (the "decision space"). Benchmarks also provide a basis for analyzing trade-offs between alternatives and for analyzing the constraints imposed by law and regulation. They are the results of a systematic objective analysis primarily performed in DEFORPLAN.

Three types of benchmarks developed for the Toiyabe National Forest are: (1) minimum level; (2) maximum resource levels for developed recreation, dispersed recreation, wilderness, timber, and range; and (3) current management. A more detailed presentation of this material is available in the accompanying Final Environmental Impact Statement (Appendix B), the Analysis of the Management Situation on the Toiyabe National Forest, and in the planning records located at the Toiyabe National Forest Supervisors Office in Sparks, Nevada.

The following definitions are provided for each Benchmark used for analysis.

Minimum Level Benchmark

This benchmark is designed to estimate naturally occurring outputs and costs of maintaining the Forest as part of the National Forest System. Minimum level is a management strategy that would meet only the following statutory requirements: administration of unavoidable, nondiscretionary land uses; prevention of impairment of the productivity of the land; and protection of the life, health, and safety of incidental users.

Current Management Benchmark

This benchmark represents the current program based on existing policies, standards, and guidelines. It continues the present course of action based on established goals and objectives which have been modified to meet and respond to present and projected program levels and consumptive demand.

Maximum Timber Benchmark

This benchmark maximizes the production of timber with maintenance of viable wildlife and fish populations and without permanent impairment of soil and water productivity. A "single resource emphasis" analysis was performed in DEFORPLAN to determine the timber production potential of the Toiyabe. A second step of this analysis involved rerunning the model to determine the most cost-efficient set of prescriptions to achieve the maximum timber production level.

All land area classified as "tentatively suitable" for timber production was included. There were no yield or budget constraints applied.

Maximum Dispersed Recreation Benchmark

This benchmark maximizes dispersed recreational opportunities on the Forest. "Single resource emphasis" analysis was used in the DEFORPLAN model to determine maximum dispersed recreation supply (in RVDs) without preference to any Recreation Opportunity Spectrum (ROS) class. A second analysis was performed in the model to determine the most cost-efficient set of prescriptions to achieve this production level.

Maximum Developed Recreation Benchmark

This benchmark maximizes developed recreational opportunities on the Forest regardless of budgetary restrictions. "Single resource emphasis" analysis was used in the DEFORPLAN model to determine the maximum production level of developed recreation supply (in RVDs). A second analysis was performed to determine the most cost-efficient set of prescriptions to achieve this production level. Constraints used to model this benchmark can be found in Appendix B of the FEIS.

Maximum Wilderness Benchmark

This benchmark maximizes wilderness recreational opportunities on the Toiyabe regardless of budgetary restrictions. "Single resource emphasis" analysis was used in the DEFORPLAN model to determine the maximum production level of wilderness opportunities (in RVDs). A second analysis was performed to determine the most cost-efficient set of prescriptions to achieve this production level.

Maximum Present Net Value (Market Values) Benchmark

This benchmark maximizes present net value (PNV) for all resources with established market values. On the Toiyabe, these resources include timber and developed recreation. Dollar values used in the economic analysis are based on "willingness to pay." Values for timber were based on historical data from timber sale reports. Developed recreation values were obtained from RPA values.

Distribution of the Toiyabe into management areas according to this benchmark was spatially infeasible. This benchmark meets the minimum management requirements 1/ and would not impair productivity of the land. No restraints were applied to the budget or production of resources. "Yields in excess of demand" trends were not valued in the economic analysis.

Maximum Present Net Value (Assigned Values) Benchmark

This benchmark maximizes PNV for all resources with established market or assigned values. On the Toiyabe, these resources include timber, developed and dispersed recreation, wilderness, water, and wildlife and fish. Dollar values are based on "a willingness to pay." RPA values serve as the standard for all outputs except timber. Timber values were calculated based on historical data.

This benchmark is spatially feasible. It meets the minimum management requirements and would not impair productivity of the land. No restraints were applied to the budget or production of resources. "Yields in excess of demand" trends were not valued in the economic analysis.

Maximum Grazing Resource

Production of forage and livestock was emphasized within the minimum constraints of law without impairment of range production. Reasonable biological potential was developed and was not constrained by budget or policy.

Minimum Wilderness

This benchmark minimized the acres of roadless areas going to recommended wilderness. All other outputs were allowed to seek a level that would maximize net public benefit.

1/ A detailed discussion of minimum management requirements is displayed in the FEIS, Appendix B, page B-85-87.

DEMAND CONDITIONS

Demand projections for timber, wildlife, fisheries, developed recreation, dispersed recreation, and wilderness opportunities are displayed in Table II-3.

Regional targets in the 1980 RPA program correspond closely with the demand trends established in the assessment for all resource element yields in Region 4. Distribution of these targets in the Regional Guide was generally accepted as the best estimate of quantity demanded with the RPA values. A horizontal demand through this quantity was further assumed over a specified range. In the case of timber yields, a horizontal demand was assumed to apply over 50 percent of the specified range. For other resources, the RPA output figures were used over the 50 year planning horizon.

Developed Recreation (Public)

Based on population growth trends and various recreation growth rates evident in different sectors of the Forest, it appears that an average of 360 family camping units (1,800 persons-at-one-time, PAOT) will need to be constructed each decade to satisfy the expected recreational demand.

Developed Recreation (Private)

It seems likely that there will continue to be applications for new kinds of recreation special uses such as river running. Over the last 10 years, special use permits for floating the East Carson River have been in great demand. Helicopter skiing also has become popular in the Sierra division.

Wilderness

The demand for wilderness, especially in the Sierra Nevada, is continuing to accelerate. Without intensive administrative control of user numbers and use patterns, or without the provision of new classified wilderness, unacceptable levels of resource deterioration will continue in existing or recommended wilderness. The demand for wilderness was partially satisfied by passage of the California Wilderness Act, except for the planning areas which are yet to be decided. In Nevada, demand will be partially met with recommended wilderness additions. Congress will ultimately assess the demand for wilderness against the need for other resources.

Wildlife and Fish

The NDOW indicates that requests for deer tags are actually 100 percent greater than the amount of tags available. Since their program is succeeding in producing quality animals and a quality hunting experience, future demand will likely increase even more rapidly. In California, demand for deer exceeds the supply and the California Department of Fish and Game is limiting deer hunters on the Toiyabe National Forest. California Department of Fish and Game records show a slow but steady increase in deer hunters on the Forest.

Data for the past 10 years indicates an overall increase in fisherman use on the Carson and Bridgeport districts, while central Nevada has experienced a significant increase. The California Department of Fish and Game indicated that, with the exception of 1974 and 1975, there has been a slight but steady increase in fishing demand. California Fish and Game also indicates that increase is expected to continue and peak, then stabilize before the year 2020. The Nevada Department of Wildlife reports similar use, except that the use is not expected to peak and stabilize prior to 2020.

The need for other wildlife and fish activities is expected to increase more rapidly. Trapping for furbearers, such as coyotes and bobcats, has increased significantly. Applications to hunt bighorn sheep far exceed quotas in Nevada. Sage grouse hunting seasons are severely restricted because the demand far exceeds the resources. Projections to the year 2000 in Nevada for sage grouse, and some other species, are down. Nonconsumptive use of nongame wildlife, such as bird watching and photography, as evidenced by the increased growth in memberships of wildlife and nature groups, indicates these activities will increase. Many populations of wildlife and fish species are expected to decline while increased populations are expected for other species. Even with projected increases in populations of some species, such as deer and antelope, it is not expected that the state wildlife agencies can meet consumptive and nonconsumptive public use.

Range

The demand for grazing exceeds current grazing estimates. The Forest has only one vacant allotment and there is continual public demand for any permits that become available.

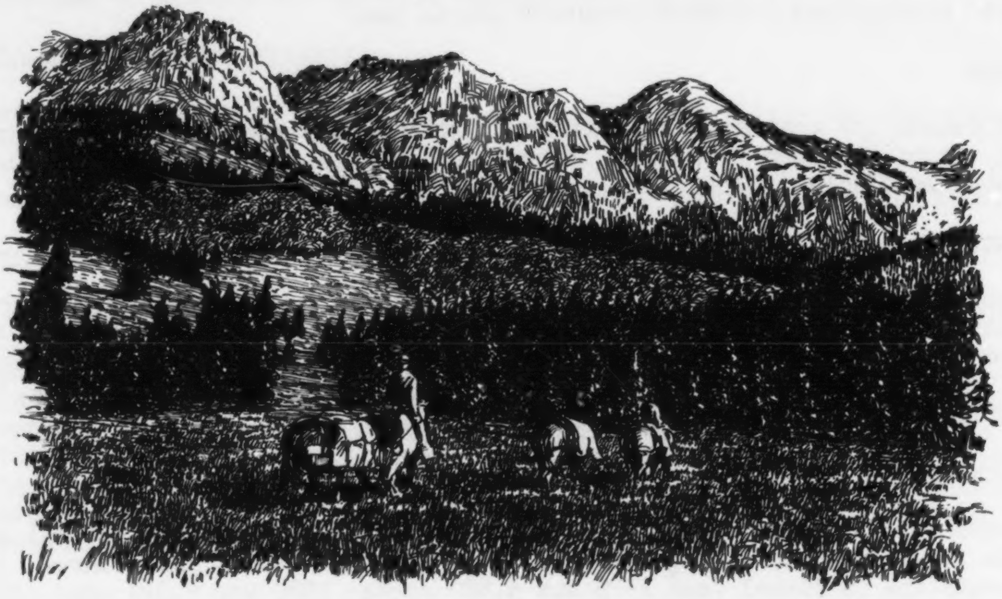
Timber

Timber has been bid above the appraised value in most sales. There are several mills in the area. All the mills except one are dependent on timber from other forests. One mill is approximately 80 percent dependent on the Toiyabe National Forest, with the remaining mills using Toiyabe timber supplementally.

Firewood

Demands for firewood have increased dramatically in the last several years. Data are available regarding consumption for the last three years. Consumption in fiscal year 1979 was 5,802 cords; 1980 was 7,321; and 1981 was 3,992 on paid permits. Free use totaled approximately 13,000 cords in 1979 and 18,500 cords in 1980. This consumption is highly influenced by the fire season. The year 1981 was dry, with woodcutting areas closed for a significant portion of the season due to fire danger. Consumption on the northern Sierra front is primarily by Reno-Sparks residents. The southern Sierra front is used by Carson City, Tahoe, Minden/Gardnerville, and surrounding residents along with some commercial woodcutting. Firewood harvest in central Nevada, where the resource far exceeds demand, is limited due to distances from population centers. Las Vegas has a limited firewood harvest because the resource is scarce.

Current amount supplied is at a level which will probably continue for at least the next 20 years along the Sierra front and in the Mount Charleston area. Should the amount supplied increase to a level equal to the amount needed per year, available firewood would be exhausted in several years time. Demand is currently greater than supply, and this should continue to increase. Some of this increased demand will be met on neighboring forests or other jurisdictions. The amount available for harvest in central Nevada is much higher than the quantity demanded, primarily due to low population density.



RESEARCH NEEDS

Vegetation Management

The Toiyabe lacks sufficient information in vegetation management to adequately manage its nonforested lands. Research that has been completed in other areas cannot be extrapolated to the Toiyabe due to our unique weather patterns. The higher elevation sagebrush types have a predominance of plant species found no where else. Our own research has concentrated on watershed, pinyon/juniper, and shrub research. The University of Nevada has completed most of their research on low elevation ranges. The Forest has the following research needs:

1. Riparian classification and management strategies to improve wildlife and fish habitat.
2. Management strategies for pinyon/juniper, aspen, mountain mahogany and bitterbrush.
3. High elevation sagebrush ecological sites (those above pinyon/juniper) needs, physiology, antecology, synecology, and management strategies.
4. Ecological vegetation analysis and trends on Mt. Charleston.
5. Management strategies for revitalizing deer winter range.
6. Sensitive species data base.
7. Soil tolerance limits and empinical formulas to estimate soil losses.
8. Big game winter range rehabilitation.

MINERALS MANAGEMENT

The Forest needs to emphasize cooperative research and experimentation to develope new data on reclamation measures. Regional Office and Forest personnel are currently working to synthesize technical guidance for reclamation of semi-arid land. The result will be a research demonstration plan and establishment of a demonstration site. The Forest will work cooperatively with industry in achieving this.

TABLE II-3   SUPPLY AND DEMAND COMPARISON FOR THE TOIYABE NATIONAL FOREST (ANNUAL YIELDS)

Program Element and Activity	Unit of Measure	1986 1990	1991 2000	2001 2010	2011 2020	2021 2030
RECREATION						
Developed Recreation Use	Thousand RVDs					
Maximum Expected Use*		1096	1125	1171	1246	1315
Maximum developed Benchmark		1096	1210	1360	1555	1670
Forest Plan		1096	1125	1171	1246	1315
Current Management Benchmark		892	544	456	456	456
Minimum Level Benchmark		0	0	0	0	0
Dispersed Recreation Use	Thousand RVDs					
Maximum Expected Use*		2169	2397	2578	2764	2862
Maximum Dispersed Benchmark		2169	2397	2578	2764	2862
Forest Plan		1705	1957	2235	2235	2235
Current Management Benchmark		1898	2337	2578	2690	2690
Minimum Level Benchmark		1548	1513	1353	1353	1353
WILDERNESS						
Wilderness Use	Thousand RVDs					
Maximum Expected Use*		1221	1317	1399	1399	1399
Maximum Wilderness Benchmark		1221	1317	1399	1399	1399
Forest Plan		684	728	772	772	772
Current Management Benchmark		300	300	300	300	300
Minimum Level Benchmark		100	100	100	100	100
WILDLIFE AND FISHERIES						
Wildlife Habitat Improvement	Thousand Acres					
Forest Plan		2.7	2.7	2.7	2.7	2.7
Current Management Benchmark		2.8	2.8	2.8	2.8	2.8
Minimum Level Benchmark		0.0	0.0	0.0	0.0	0.0
Management Indicator Species						
Goshawk (pairs)	Breeding Pairs					
Maximum Expected Population		132	132	132	132	132
Forest Plan		66	66	66	66	66
Current Management Benchmark		60	60	60	60	60
Minimum Level Benchmark		55	55	55	55	55
Pine marten	Thousand Animals					
Maximum Expected Population		3.4	3.4	3.4	3.4	3.4
Forest Plan		.85	.95	.95	.95	.95
Current Management Benchmark		.85	.85	.85	.85	.85
Minimum Level Benchmark		.8	.8	.8	.8	.8
Paiute cutthroat trout **	Fish/mile/stream					
Maximum Expected Population		750	750	750	750	750
Forest Plan		230	380	500	500	500
Current Management Benchmark		230	300	450	450	450
Minimum Level Benchmark		230	230	230	230	230
Lahontan cutthroat trout **	Fish/mile/stream					
Maximum Expected Population		400	400	400	400	400
Forest Plan		225	380	500	500	500
Current Management Benchmark		200	200	200	200	200
Minimum Level Benchmark		200	200	200	200	200

TABLE II-3 SUPPLY AND DEMAND COMPARISON FOR THE TOIYABE NATIONAL FOREST

Program Element and Activity	Unit of Measure	1986 1990	1991 2000	2001 2010	2011 2020	2021 2030
WILDLIFE AND FISH						
Management Indicator Species						
Williamson's sapsucker (pairs)	Thousand Animals					
Maximum Expected Population		10.2	10.2	10.2	10.2	10.2
Forest Plan		3.4	3.4	3.4	3.4	3.5
Current Management Benchmark		3.4	2.7	2.7	2.7	2.7
Minimum Level Benchmark		2.1	2.1	2.1	2.1	2.1
Hairy woodpecker (pairs)	Thousand Animals					
Maximum Expected Population		21.6	21.6	21.6	21.6	21.6
Forest Plan		5	5	5	5	5
Current Management Benchmark		5	4.4	4.4	4.4	4.4
Minimum Level Benchmark		2.5	2.5	2.5	2.5	2.5
Mule deer	Thousand Animals					
Maximum Expected Population		71	71	71	71	71
Forest Plan		29	32.5	33.6	33.6	33.6
Current Management Benchmark		29	29.7	29.7	29.7	29.7
Minimum Level Benchmark		29	29	29	29	29
Sage grouse	Thousand Animals					
Maximum Expected Population		35.2	35.2	35.2	35.2	35.2
Forest Plan		17.3	20.0	23.0	25.0	27.0
Current Management Benchmark		17.3	17.3	17.3	17.3	17.3
Minimum Level Benchmark		17.3	17.3	17.3	17.3	17.3
Yellow warbler (pairs)	Thousand Animals					
Maximum Expected Population		12	12	12	12	12
Forest Plan		6.0	5.6	5.6	5.6	5.6
Current Management Benchmark		6	5	4.8	4.5	4
Minimum Level Benchmark		4	4	4	4	4
Palmer's chipmunk	Thousand Animals					
Maximum Expected Population		7.5	7.5	7.5	7.5	7.5
Forest Plan		6.6	6.6	6.6	6.6	6.6
Current Management Benchmark		6.6	6.6	6.6	6.6	6.6
Minimum Level Benchmark		5.3	5.3	5.3	5.3	5.3
Yellow-bellied sapsucker	Thousand Animals					
Maximum Expected Population		2.5	2.5	2.5	2.5	2.5
Forest Plan		1.5	1.5	1.5	1.5	1.5
Current Management Benchmark		1.5	1.5	1.5	1.5	1.5
Minimum Level Benchmark		.9	.9	.9	.9	.9
Macroinvertebrates(BCI)						
Maximum Expected Population		110	110	110	110	110
Forest Plan		75	77	78	78	78
Current Management Benchmark		75	70	70	70	70
Minimum Level Benchmark		41	41	41	41	41
Dispersed Wildlife Use						
General Forest Area	Thousand of WFUDs					
Maximum Expected Use*		660	660	660	660	660
Maximum Wildlife Benchmark		660	660	660	660	660
Forest Plan		403	495	562	562	562
Current Management Benchmark		338	377	410	410	410
Minimum Level Benchmark		290	290	290	290	290

TABLE II-3 SUPPLY AND DEMAND COMPARISON FOR THE TOIYABE NATIONAL FOREST

Program Element and Activity	Unit of Measure	1986 1990	1991 2000	2001 2010	2011 2020	2021 2030
WILDLIFE AND FISH						
Dispersed Wildlife Use						
Wilderness	Thousand of WFUDs					
Maximum Expected Use*		290	290	290	290	290
Maximum Wildlife Benchmark		290	290	290	290	290
Forest Plan		99	99	100	100	100
Current Management Benchmark		74	74	74	74	74
Minimum Level Benchmark		18	18	18	18	18
Improvement	Thousand of WFUDs					
Forest Plan		15.1	15.1	15.1	15.1	15.1
Current Management Benchmark		8.1	8.1	8.1	8.1	8.1
Minimum Level Benchmark		0.0	0.0	0.0	0.0	0.0
RANGE						
Domestic Livestock (Permitted Use)	Thousand AUMs					
Maximum Expected Use*		120	120	120	120	120
Maximum Range Benchmark		96	108	110	110	110
Forest Plan		98	98	99	99	99
Current Management Benchmark		98	98	98	98	98
Minimum Level Benchmark		0	0	0	0	0
Wild Horses (Permitted Use)	Thousand AUMs					
Maximum Expected Use*		7.5	7.5	7.5	7.5	7.5
Maximum Range Benchmark		5.5	5.5	5.5	5.5	5.5
Forest Plan		5.1	5.1	5.1	5.1	5.1
Current Management Benchmark		4.3	4.2	4.2	4.2	4.2
Minimum Level Benchmark		4.1	4	4	4	4
TIMBER						
Program Sales Offered	Million CF					
Maximum Expected Use*		2.2	2.2	2.2	2.2	2.2
Maximum Timber Benchmark		2.2	2.2	2.2	2.2	2.2
Forest Plan		.7	.7	.7	.7	.7
Current Management Benchmark		.9	.9	.9	.9	.9
Minimum Level Benchmark		.0	.0	.0	.0	.0
	Million BF					
Maximum Expected Use*		14	14	14	14	14
Maximum Timber Benchmark		14	14	14	14	14
Forest Plan		4.5	4.5	4.5	4.5	4.5
Current Management Benchmark		6	6	6	6	6
Minimum Level Benchmark		0	0	0	0	0
Fuelwood	Thousand CF					
Maximum Expected Use*		1080	1080	1080	1080	1080
Maximum Timber Benchmark		690	690	690	690	690
Forest Plan		587	587	587	587	587
Current Management Benchmark		561	561	561	561	561
Minimum Level Benchmark		0	0	0	0	0
	Thousand Cords					
Maximum Expected Use*		12.0	12.0	12.0	12.0	12.0
Maximum Timber Benchmark		7.7	7.7	7.7	7.7	7.7
Forest Plan		6.5	6.5	6.5	6.5	6.5
Current Management Benchmark		6.7	6.7	6.7	6.7	6.7
Minimum Level Benchmark		0.0	0.0	0.0	0.0	0.0

TABLE II-4 WILD AND SCENIC RIVER ELIGIBILITY STUDY

EAST FORK CARSON RIVER

Free-Flowing Natural	Length	Water Volume	Outstanding Remarkable Values	Water Quality	Conclusions
No impoundments or or other unnatural alterations of significanct nature to disqualify.	The River is being considered in three areas - Wild Area from source - 27 miles, all within proposed Carson-Iceberg Wilderness. Scenic River Area- 19.5 miles from Hangman's Bridge to Ruhenstroth Dam. Recreational area- from the mouth of Wolf Creek to Hangman's Bridge.	The discharge ranges from a low of about 30 cfs to a high of over 3200 cfs. There is generally sufficient volume for raft trips from April to early July. Fishing is good from June to end of season.	Wild River Area- wilderness quality terrain. Varies from alpine to pine forest with waterfalls, and historic values. Scenic River Area - has dispersed recreation, wildlife and historic value. Recreational River Area - has recreation, wildlife and historic values.	Water quality is sufficient to allow contact recreation.	The East Fork Carson flows through lands administered by USFS & BLM as well as privately owned. Lower scenic portion is being studied by U.S. Water and Power Resources Services from Watasheamu Dam. Even though the basic criteria are met, the decision to designate a wild, scenic or recreational river needs further study and coordination.

WEST FORK OF THE WALKER

Free-Flowing Natural	Length	Water Volume	Outstanding Remarkable Values	Water Quality	Conclusions
No impoundments on the entire length. The portion from the Forest boundary north has extensive agriculture to its banks and many canals and diversions with several road crossings. The portion from the confluence with the Little Walker	54 miles total. 36 miles within National Forest Boundary. Little Walker confluence to boundary, 9 miles. Leavitt Meadows, 11 miles. Leavitt Meadows to source including west fork, 16 miles.	There is sufficient volume to permit enjoyment of water related outdoor recreation activities generally associated with comparable rivers. Due to an abundance of rocks in the Little Walker to Forest boundary portion watercraft	Portion from source to Little Walker confluence has outstanding scenic, recreation, and wildlife values. Portion from source to Leavitt Meadows is within a recommended wilderness. Portions from Little Walker to Forest boundary is af-	Water quality is sufficient to allow contact recreation.	BLM has an interest in that portion from the Forest boundary to Topaz Lake due to extensive agriculture and lack of any public land on the shore line for the entire length of this portion. Dis-

Free-Flowing Natural	Length	Water Volume	Outstanding Remarkable Values	Water Quality	Conclusions
north to the Forest boundary is paralled closely by U.S. 395 causing the road to be very conspicuous. The portion from Little Walker to Leavitt Meadows is paralleled by state 108. It is not as conspicuous as U.S. 395 due to a combination of distance, topography, and vegetation. From the source to Leavitt Meadows the River is located in a recommended wilderness.		recreation is nearly impossible and dangerous. Above the Little Walker watercraft recreation marginal due to low volume.	fected by the parallel highway but canyon appears undeveloped in nature otherwise. Portions of this river expecially from Leavitt Meadows, including the West Fork, has significant historic identity.		qualification indicated for this portion. Little Walker to Forest boundary qualifies as a recreational river (9 miles). Leavitt Meadows to Little Walker qualifies as a scenic river (11 miles). Source to Leavitt Meadows qualifies as a wild river (15 miles).

EAST FORK OF THE WALKER

Free-Flowing Natural	Length	Water Volume	Outstanding Remarkable Values	Water Quality	Conclusions
No impoundments for entire lenght. Dirt road parallels river closely for 1/2 mile. Some irrigated pasture land on private land on upper 1 mile.	5 miles within National Forest most (80%) on private land.	Sufficient volume of water related activities generally associated with comparable rivers. Water volume not sufficient for watercraft recreation.	Identified as in the top 10% of free flowing rivers in great basin province.* Outside this region and compared with rivers it is not outstandingly remarkable.	Water quality is sufficient to allow contact recreation.	BLM has classified their portion (Forest Boundary to Flying M Ranch) as scenic under an administrative designation. BLM administers 17 of the 22 miles of subject river section. BLM will not consider recommendation for study if at all until their 1986 Walker Unit Land Use Plan. BLM has not yet recommended study for this river,

Free-Flowing Natural	Length	Water Volume	Outstanding Remarkable Values	Water Quality	Conclusions
			*Source National Park Service Study.		the Forest Service portion cannot stand alone with designation and the majority of the Forest Service portion is in private ownership making it unmanageable as a wild and scenic river. Disqualification is indicated.

TABLE II-5

ELECTRONIC/ANTENNA SITES

DISTRICT	SITE NAME	KIND	
		ELECTRONIC	ANTENNA
Carson	Galena	X	
	Slide Mountain	X	
	Snow Valley Peak	X	
	Spooner Ridge	X	
	Genoa Peak	X	
	Monument Peak		X
	Hawkins Peak	X	
	Leviathan Peak	X	
Bridgeport	Nevada Creek Ridge	X	
	Pine Grove	X	
	Desert Creek Peak	X	
	Lobdell Lake	X	
	Lost Cannon	X	
	Mean	X	
	Sweetwater	X	
	Sarita Mine	X	
	Sonora Junction	X	
	Masonic	X	
	Sonora Pass Bridge	X	
	Leavitt Meadows	X	
	North Hunewill Hills		X
	Hunewill Hills	X	
	Virginia Lakes Ridge	X	
Austin	Bob Scotts		X
	Austin	X	
	Bald Mountain (Monitor)	X	
	Bunker Hill	X	
	Bald (Ione)	X	
	Paradise		X
Tonopah	Peavine Peak	X	
	Mahogany Mountain	X	
	Mt. Jefferson	X	
	Shoshone Creek	X	
	Stone Cabin	X	
Las Vegas	Charleston Peak	X	
	Harris Ridge	X	

III. RESPONSES TO ISSUES, CONCERNS AND OPPORTUNITIES

CHAPTER III

RESPONSES TO ISSUES, CONCERNS, AND OPPORTUNITIES

National Forest land and resource management planning is "issue oriented." NFMA Regulations [36 CRF 219.12(f)(4)] state:

> "Alternatives shall provide different ways to address and respond to the major public issues, management concerns, and resource opportunities identified during the planning process."

This chapter describes how the Toiyabe National Forest Land and Resource Management Plan responds to major public issues, management concerns, and resource opportunities (ICOs).

This phase of the Toiyabe land and resource management planning process resulted in the identification of 11 issue topics. (This phase of the planning process is detailed in the process record Major Issues, Concerns, and Opportunities to be Addressed in the Toiyabe Land Management Plan on file in the Forest Supervisor's Office in Sparks, Nevada.)

PLANNING ISSUE 1

HOW SHOULD THE VARIOUS RECREATIONAL ACTIVITIES ON THE FOREST BE ASSIGNED TO BEST MEET THE NEEDS OF A VARIETY OF RECREATIONAL VISITORS?

Direction in this Plan will provide for construction of 12 new campgrounds on the Sierra front at the most economical sites, and reconstruction of existing sites. In addition to developed recreation construction, construction/reconstruction of 100 miles of trail will enhance the dispersed recreation resource. Sixteen additional trail heads will be constructed on the Sierra front and in central Nevada. There will be an emphasis on Forest-wide trail management and improving midweek use of facilities on Mount Charleston. This total construction/reconstruction will supply an additional 5,150 people at one time (PAOTs).

The Toiyabe contains five Recreation Opportunity Spectrum (ROS) settings: rural, roaded natural, semi-primitive motorized, semi-primitive nonmotorized, and primitive. It should be noted that the ROS classification of "primitive" is not synonymous with wilderness. The primitive classification is more restrictive than wilderness. Implementation of this Plan would offer the following recreational opportunities at the end of the 50-year planning horizon, based on ROS settings:

ROS SETTING	ACRES	MMRVDs*
Primitive	147,394	4.7
Semi-primitive nonmotorized	1,409,100	18.9
Semi-primitive motorized	1,056,100	18.9
Roaded natural	536,310	118.0
Rural	21,272	75.5

* Maximum capacity

Through this Plan, the Toiyabe will offer an increased mixture of acreage and recreational opportunities in the ROS settings than currently exists. Scenic values will increase because of minimized impacts to the landscape through decreased timber harvesting and increased on-the-ground management of mineral exploration and leasing.

The East Carson and West Walker rivers are eligible for wild and scenic and/or recreational river classification. The East Walker may be eligible but has not been studied. Lands surrounding the East Fork of the Carson, the West Fork of the Walker, and the East Fork of the Walker rivers will be protected to maintain their existing scenic values. These river corridors will be protected until suitability studies and a recommendation can be made.

PLANNING ISSUE 2

HOW SHOULD THE FOREST RESOURCES BE MANAGED FOR TIMBER IN (A) SIERRA DIVISION, (B) PINYON-JUNIPER TYPE, (C) LAS VEGAS (MT. CHARLESTON)?

Timber will come mainly from Dog Valley, Walker, Alpine County, and the Carson Front. Even-aged management will be the primary silvicultural system used with both natural and artificial regeneration practices employed. Uneven-aged management would be used on a case-by-case basis for special managment objectives (old growth habitat, special wildlife habitat requirements, visual quality objectives). There will be 11,173 acres of the Toiyabe "intensively" managed for timber production (with constraints to provide for minimum management requirements of all Forest resources). There will be 59,410 acres managed to provide a mixture of Forest resources similar to current management. The pinyon/juniper working group in central Nevada will be managed to produce 56,600 Christmas trees, 1,625 tons of pinyon pine nuts, and 25,450 posts and poles. In the Mount Charleston area, resident stands will be managed mainly for control of insects and diseases, aesthetics, and to maintain ponderosa pine habitat. Fuelwood will be provided through both free-use and sales. The Toiyabe has identified 70,583 acres as being available and suitable for timber production.

PLANNING ISSUE 3

(A) HOW SHOULD THE FOREST BE MANAGED AND/OR USES ADJUSTED TO MAINTAIN THE FLOW OF HIGH QUALITY WATER?

(B) HOW SHOULD AQUATIC AND RIPARIAN HABITATS BE MANAGED SO THEIR QUALITY IS MAINTAINED OR IMPROVED?

(C) HOW SHOULD THE FOREST BE MANAGED AND/OR USES ADJUSTED TO MAINTAIN SOIL PRODUCTIVITY?

This Plan contains Forest-wide standards and guidelines, designed to protect the quality of soil, water, and riparian areas and to improve productivity. Ninety-five percent of the riparian area will be in satisfactory condition by the year 2030.

Over the 50-year planning period, 1,700 acres will be treated to improve watershed and range conditions.

PLANNING ISSUE 4

HOW SHOULD RANGELANDS ON THE TOIYABE BE UTILIZED TO MEET THE NEEDS OF LIVESTOCK, WILDLIFE, WATER, WILD FREE-ROAMING HORSES AND BURROS, AND OTHER RESOURCE USES?

Conflicts in use of range by big game and livestock will be reduced as range condition improves and wildlife habitat improvements are completed. Elk population in central Nevada is expected to level off within 20 years. All allotment management plans will be completed and implemented by 1995. The Toiyabe will coordinate and work with both California and Nevada state wildlife agencies to assure that state goals and objectives are met. Approximately 95 percent of the range will be in satisfactory condition by the year 2030. Achieving this percentage of satisfactory condition will result in greatly improved long-term soil productivity.

PLANNING ISSUE 5

HOW SHOULD THE FOREST ROAD AND TRAIL TRANSPORTATION SYSTEM BE PLANNED, MANAGED, AND MAINTAINED TO PROVIDE ACCESS TO NATIONAL FOREST LANDS AND RESOURCES?

Management prescriptions within this Plan contain schedules for construction of system roads in individual management areas. The road system will be located by forest engineers to facilitate multiple resource management. All roads will be designed, constructed, and maintained according to standards and guidelines for these management prescriptions.

PLANNING ISSUE 6

(A) WHERE AND TO WHAT EXTENT SHOULD THE FOREST ACQUIRE NEW LANDS INTO THE NATIONAL FOREST SYSTEM?

(B) WHERE ARE UTILITY CORRIDORS, SUBSTATION SITES, AND ELECTRONIC SITES NEEDED?

(C) WHERE IS PUBLIC ACCESS (RIGHT-OF-WAY) NEEDED?

This Plan contains direction to adjust National Forest ownership to achieve the goals and objectives of this alternative.

Priority will be to acquire important winter habitat along the Reno-Carson front, and lands in Hope Valley and on Mount Charleston.

This Plan provides for designation of the following utility corridors:
I-80 (Donner Pass Area)
U.S. 50 East (Bob Scott Summit area)
Sylmar-Los Angeles Transmission Line (East of Mono Lake)
U.S. Highway 6 and U.S. Highway 31

A window for possible new utilities is established north and south of Kingsbury (Daggett Pass) from the Meyers-Buckeye line north to the Buckeye-Round Hill line, at Luther Pass, and at Armstrong Pass. Specific project location will be handled through the environmental analysis process if and when a project is proposed. Designation of any new utility corridors will also be considered through an environmental analysis.

PLANNING ISSUE 7

HOW SHOULD THE FOREST BE MANAGED TO SATISFY NATIONAL NEEDS FOR MINERALS AND ENERGY RESOURCES WHERE OTHER RESOURCE OPPORTUNITIES WOULD BE FOREGONE?

The level of the mineral program in the Plan will be moderate to high and designed to develop mineral resources while protecting surface resources. There will be accelerated response to the estimated 12,069 operating plans. The Forest will work with industry to develop efficient and effective methods of exploration and reclamation. Sale of common variety minerals will be provided where appropriate.

Designation of 261,500 acres of roadless area as recommended wilderness is provided in this Plan. Of these acres designated, 40,400 acres have high mineral potential and will not be available for exploration.

Forest-wide standards and guidelines are provided for development and management of energy and nonenergy mineral resources.

PLANNING ISSUE 8

SHOULD THE FOREST RECOMMEND WILDERNESS DESIGNATION FOR ANY OF THE AREAS INVENTORIED UNDER THE REVISED STUDY? IF SO, WHICH ONE(S)?

Decisions contained in the California Wilderness Act of 1984 are incorporated in this Plan. The Forest has 135,100 acres of wilderness. Through this Plan the Toiyabe recommends the following additional areas for wilderness designation:

California	
Hoover Further Planning Area (East)	23,500 acres
Hoover Planning Area (West)	49,200 acres
Carson-Iceberg Planning Area	4,900 acres
Nevada	
Mount Rose	16,000 acres
Mount Jefferson	31,000 acres
Arc Dome	94,400 acres
Mount Charleston	42,500 acres
Total	261,500 acres

All other areas will be returned to nonwilderness management for the first planning cycle.

PLANNING ISSUE 9

HOW SHOULD THE TOIYABE BE MANAGED TO MAINTAIN AND IMPROVE WILDLIFE AND FISH HABITAT?

This Plan contains a number of policies, management practices, and standards and guidelines designed to benefit a variety of wildlife and fish species on the Forest.

Coordination with the Nevada Department of Wildlife, and California Department of Fish and Game will remain a top priority in the annual wildlife and fisheries programs. Regulation of hunting and fishing will continue to be under authority of the state departments. Habitat protection and management will remain a Forest Service responsibility.

Management Indicator Species (MIS) are specified in this Plan to measure the effects of management activities on different wildlife and plant habitats. Some MIS will be emphasized in certain management areas in response to demand for those species.

Viable populations of all native vertebrate and plant species will be maintained.

PLANNING ISSUE 10

HOW SHOULD THE TOIYABE RESPOND TO IMPACTS FROM URBAN ENCROACHMENT INTO THE FOREST ALONG THE RENO-CARSON FRONT, AND GENERAL POPULATION INCREASES IN CENTRAL NEVADA?

The Sierra front Fire Initiative proposal for improved fire protection is included in this Plan. Construction of facilities (both developed and dispersed) will occur in the Sierra where the demand is creating the most urgent needs. Location and capacity of these facilities will be coordinated with state and local governments to prevent duplication of facilities and to ensure adequate variety. Forest Service facilities will enhance the dispersed recreation resource. Through land adjustment directives in this Plan, conflicts between public and private ownership and rights-of-way will be minimized.

This Plan provides for acquisition of important winter habitat along the Reno-Carson front, as well as for lands in Hope Valley and on Mount Charleston.

This Plan contains standards and guidelines to protect all Forest resources. Vegetative manipulation and structural developments will be used to maintain and enhance wildlife and fishery habitat.

PLANNING ISSUE 11

WHAT ADDITIONAL AREAS ON THE TOIYABE NATIONAL FOREST SHOULD BE CLASSIFIED AS RESEARCH NATURAL AREAS?

Through this Plan, the Toiyabe will maintain research natural area (RNA) status for Mount Jefferson, and Carpenter Canyon, and add Babbit Peak to the system. The Sweetwater RNA will be dropped due to the significant alteration of vegetative cover through mining activity over the last 10- to 15-years. A new pinyon/juniper RNA will be established to replace Sweetwater. Any proposal for new RNAs will be handled through the environmental analysis process.

IV. FOREST MANAGEMENT DIRECTION

CHAPTER IV

FOREST MANAGEMENT DIRECTION

This chapter contains the Forest-wide multiple-use goals, desired future condition, and standards and guidelines that apply to the Toiyabe National Forest. Twelve management areas are also described and management direction and activities are discussed for each area.

MANAGEMENT GOALS AND DESIRED FUTURE CONDITION OF THE FOREST

Forest management goals are concise statements describing a desired condition to be achieved sometime in the future. They are timeless in that they have no specific date on which they are to be completed. With implementation of this Forest Plan, the condition of the Toiyabe National Forest will begin to change, culminating in a more efficient and productive Forest by the year 2030.

The mission of the Toiyabe is to serve as the public's steward of the land and its resources. The Toiyabe will manage these resources for the benefit of all American people both locally and nationally. In all its activities, the Forest will strive to manage productivity and resource values for current and future generations. The Toiyabe workforce will be dedicated to safety, economic efficiency, the public, and the land.

Implementation of the Plan will enhance environmental quality, promote economic growth, and provide a higher level of market and nonmarket outputs than is currently being achieved. This emphasis represents more intensive management of the Forest's resource potential than currently exists and is generally needed if projected demands are to be met over the next 50 years.

This section describes "Goals and Desired Future Condition" of the Toiyabe by resource element. Goals for each resource are stated in broad, general terms looking from the present into the future. The desired future condition is stated as how the Forest should appear in the year 2030 if implementation of the Plan is properly achieved.

Implementation of management direction to achieve the desired goals will be coordinated with the policies, programs, and objectives of other federal agencies, and state and local governments.

RECREATION

Goals

(1) The Toiyabe will increase the quality and quantity of developed and dispersed recreation opportunities with particular emphasis in the Sierra Nevada and the Spring Mountains of southern Nevada.

(2) Recreation Management will be in concert and coordination with appropriate city, county, state, and other federal agencies.

Desired Future Condition

The Forest will offer a variety of opportunities for developed and dispersed recreational experiences. Construction of 12 new campgrounds and reconstruction of existing sites will provide an additional 5,150 PAOTs. Existing and newly developed sites will operate to Forest Plan standards and guidelines. Expected demand for developed recreation will be met. Construction/reconstruction of 100 miles of trail and construction of 16 additional trailheads will increase dispersed recreation opportunities. Construction/reconstruction may have been modified based on planned comprehensive trail inventories. Identification of some trailhead locations would also depend on the planned inventory. Trails will be maintained at a one- to five-year frequency depending on management objectives. An average of 375 miles of trail will be maintained annually. Increased protection of resources and recreational users will have been provided through improved law enforcement. Facility maintenance will have been increased and all developed recreation improvements will be maintained at a safe and healthy standard.

ORV use will be allowed where such use is not incompatible with other resource programs. An annual travel plan will be developed for each Ranger District. Generally, the Forest will be open to ORVs. Closure or restrictions will occur where there is obvious conflict with other uses and where natural resource damage might result. Forest resources will not have been degraded from indiscriminate ORV use.

The following areas will be closed either through the year or seasonally to ORV use:

1. Roads and trails which are closed by sign, gate, or barricade including earthen barricades extending the width of the road
2. Where it is necessary to remove obstacles such as rocks, logs, or soil or where there would be damage to vegetation
3. Developed recreation sites (except for ingress and egress to parking facilities)
4. Key wildlife habitat such as winter range, fawning, and lambing areas
5. Rights-of-way for electrical transmission lines, pipelines, or telephone lines
6. Riparian zones unless specifically designated by a Forest Officer
7. Timber regeneration areas where trees are less than ten feet high

8. Wilderness

9. "Areas" and trails managed for nonmotorized recreation activities as shown on ranger district travel plans and maps

10. Areas with easily erodible soils

Management of roads will be planned to minimize impacts to roadbeds and to minimize surface erosion. A number of local roads are not adequately designed for year-round use. Except for short periods, these roads will be closed to public motorized use in order to minimize watershed impact. Rehabilitated temporary or old logging roads will normally be closed to motorized vehicular use. These rehabilitated roads will be signed "closed to vehicles."

VISUAL MANAGEMENT

Goal

(1) The Forest landscape will be managed with a sensitivity for visual quality.

Desired Future Condition

The Forest's landscape will have been managed to achieve the following visual quality objectives (VQOs):

1. "Preservation" -- where only ecological changes have occurred (396,600 acres)
2. "Retention" -- management practices are not evident to the casual observer (438,000 acres)
3. "Partial Retention" -- management practices are visually subordinate (1,022,400 acres)
4. "Modification" -- management practices may have dominated the landscape but activities should appear as natural occurrences in the fore- and middle-ground (1,086,700 acres)
5. "Maximum Modification" -- management practices may have dominated the landscape but activities should appear as natural occurrences in the background (228,000 acres)

Visual Quality Maps are on file in the Toiyabe National Forest Supervisor's Office in Sparks, Nevada.

FIRE AND FUEL MANAGEMENT

Goals

(1) The Forest will provide an effective fire management program that is responsive to land and resource management objectives. It will achieve the successful operation of a fully coordinated fire protection workforce which includes the Forest Service, State of Nevada, State of California, BLM, and local fire departments.

(2) Prescribed burning will be planned to meet management objectives, including fuels reduction and habitat type conversion, in a safe and efficient manner.

Desired Future Condition

Fire and fuel management will have been implemented at a level that achieved the least cost plus least net value change on all management areas, except those where management direction required a more intense level of protection. The Cooperative Sierra Fire Initiative will have been implemented. Level II and the Sierra Initiative will result in an average annual burn of a maximum of 500 acres by wildfire and improved protection of private land investments within and adjacent to the Forest. Prescribed burning will have been used in wildlife and range management practices resulting in improved vegetative conditions.

RANGE MANAGEMENT

Goals

(1) Rangelands will be in satisfactory condition or better.

(2) All grazing allotments and wild and free-roaming horse and burro territories will be under approved management plans.

Desired Future Condition

Ninety-five percent of all rangelands will have been brought to satisfactory condition. Management plans will have been approved for all grazing allotments and wild and free-roaming horse and burro territories. Livestock and wild horse/burro use will have been maintained at pre-existing levels. Noxious farm weeds will be under control.

PUBLIC INFORMATION AND COORDINATION

Goals

(1) The Toiyabe will provide information to the public on the Forest's mission and programs.

(2) The public, state, local, and other federal agencies will be involved in the Toiyabe's decision-making process by fully implementing the Forest Service National Environmental Policy Act (NEPA) process and providing adequate "scoping" of issues per FSH 1909.15.

Desired Future Condition

The public will fully understand the mission of the Toiyabe specifically, and the Forest Service as a whole. Decisions made on the Toiyabe National Forest will have benefited from public involvement through the scoping and NEPA process.

WILDERNESS

Goals

(1) Existing and recommended wilderness will be designated and managed to protect wilderness values.

(2) Quality wilderness experiences will be provided for the public.

Desired Future Condition

The addition of 261,500 acres to the wilderness system will have perpetuated wilderness values for future generations. Site damage and overuse on some portions of the existing Hoover Wilderness will have been reduced through better user management. The Hoover and Carson-Iceberg Wilderness additions will have provided additional wilderness acreages in the Sierra. The additions of Arc Dome and Mount Jefferson in central Nevada, Mount Charleston in southern Nevada and Mt. Rose in the Carson Range will have provided opportunities for wilderness experiences in parts of the state where none previously existed.

TIMBER

Goals

(1) Timber will be managed to optimize the goals and key resource values of the Toiyabe.

(2) Public benefits will exceed costs.

Desired Future Condition

Well-managed vegetative manipulation of timber stands will have resulted in a reduction of insect and disease problems; provided access to many areas of the Forest for resource management activities; and reduced wildfire hazards. A balanced habitat will have resulted in an overall net gain of many wildlife species inhabiting the Forest. Soils will not have been degraded and water quality will have been maintained or improved. (See Appendix D for specific timber age distributions through the planning horizon.)

SOIL, WATER, AND RIPARIAN AREAS

Goals

(1) High quality water yields will be enhanced for approximately 949,500 acre feet to meet state water quality standards. Water rights and instream flows will be acquired as necessary for management and use of the National Forest.

(2) The Forest will improve water quality and manage riparian areas to satisfactory condition. All riparian area-dependent resources will be maintained or enhanced. Water resource improvement projects and other projects will be designed to improve and maintain the quality of water and soil resources.

Desired Future Condition

Greater emphasis on environmental quality will have had positive effect on the soil and water resources. Specific riparian area standards and guidelines, and greater emphasis on rangeland management will have significantly benefitted riparian area-dependent resources. Direct soil and water resource improvement projects will have arrested the decline and, in some instances, restored the productivity of key watersheds. Instream flows will protect riparian area-dependent resources against incompatible water resource development. Use of Forest-wide resource inventory and greater emphasis on water resource inventory will have resulted in greater project success, less impact on soil and water resources, and avoidance of losses from management activities in hazardous areas such as floodplains. Monitoring will provide information for quicker response to management-induced impacts on soil and water resources. Knowledge to properly implement projects will also be gained from continued monitoring. Water yields will not have increased on the Forest.

WILDLIFE AND FISH

Goals

(1) Threatened, endangered, and sensitive species will be recognized and protected through habitat management and coordination with state wildlife agencies. Habitat will be in good-to-excellent condition. Lahontan cutthroat trout will be delisted. Paiute trout species will be firmly established. Bald eagle habitat

will be maintained and peregrine falcons successfully reintroduced in the Sierra.

(2) Fish and game populations will be enhanced and managed at levels commensurate with habitat conditions with an emphasis on improving overall quality of wildlife habitat.

Desired Future Condition

Habitat conditions for Paiute and Lahontan cutthroat trout (threatened species-federal list) will be "good" to "excellent," and both fish will have been delisted. Habitat conditions for the bald eagle and peregrine falcon will have been maintained. Peregrine falcons will be present on the Sierra districts.

Management of habitat for MIS, sensitive species, fish, and big game species will have been emphasized. Riparian habitats will have been improved by emphasizing their protection and restoration. Use of the Forest snag management and old growth standards and guidelines will have maintained forested habitats for nongame and ecologically important species. Sensitive plant species will be protected.

The Toiyabe will have continued to work with other agencies, particularly the Nevada Department of Wildlife and the California Department of Fish and Game, to determine what opportunities exist for habitat management.

HUMAN RESOURCES

Goals

(1) The Forest will maintain the Human Resources Program to provide participants with employment, and conservation and environmental education and awareness while participants assist the Forest in accomplishing its objectives.

(2) The Forest will continue to provide equal opportunity to all persons regardless of race, creed, sex, marital status, age, handicap, religion, or national origin.

Desired Future Condition

Many of the Forest objectives will have been accomplished through the Human Resources Program. Along with completion of projects that will benefit society as a whole, participants in the program will have an understanding of the Forest Service and its many programs. The Toiyabe will have benefitted and will be a better organization for which to work.

CULTURAL RESOURCES

Goals

(1) Forest-wide programmatic inventory and evaluation will be implemented to identify cultural resources on the Toiyabe.

(2) Significant properties will be identified, evaluated for National Register nomination, and protected, as appropriate.

(3) The Forest will manage cultural resources in a comprehensive manner and eliminate "crisis management."

(4) Enhancement and interpretation of cultural resources will encourage public interest.

Desired Future Condition

The Cultural Resource Overview (having been completed in 1988) will guide management decisions and direction, and provide a necessary link to the Nevada State Historic Preservation Plan. In the Overview, areas will have been delineated for moderate and high archaeological sensitivity, and work targeted for completion of a Forest-wide cultural resource inventory. All nominations of properties to the National Register will have been made. The inventory of National Register properties will provide a useful planning tool for effective management of the cultural resource in relation to other resource needs. Protection, enhancement, and interpretation of National Register quality properties will have been on-going.

LANDS AND SPECIAL USES

Goals

(1) Use and occupancy of the National Forest will be provided when it is consistent with Forest management area objectives, is in the public interest, and when it cannot reasonably be served by development on private land.

(2) Land ownership will be adjusted to optimize public benefits and administrative effectiveness of the National Forest System.

(3) Sufficient access will be provided for public use and resource management of the Forest.

Desired Future Condition

The Forest will have acquired 35,000 acres through exchange. Major priorities for land adjustment will have been key wildlife habitat and recreational use. Land consolidation will have minimized or eliminated ownership patterns which require rights-of-way across private lands for public access and resource management. Occupancy, fire, and timber trespass also will have been minimized or eliminated through consolidation. All land will have been adjusted in accordance with legislative mandates and Forest Service policy; covered by environmental analysis; and, where applicable, coordinated with other state and federal agencies and private owners.

All property lines will have been located and posted to standard with the addition of 14,000 corners.

Issuance of special use permits will be limited to those cases which serve the public need and which cannot reasonably be met on private lands. Priority will be given to special uses which maximize public benefits including energy related uses. Any necessary mitigating measures will be incorporated into permits. Electronic special uses will be limited to designated electronic sites and screened carefully to avoid interference with Forest Service frequencies.

When proposals to develop private inholdings will significantly impact National Forest lands, these concerns and recommended mitigation measures will be discussed with appropriate county or local officials.

TRANSPORTATION SYSTEM AND FACILITIES

Goals

(1) A safe and efficient transportation network will be provided for resource protection, management, and public use of National Forest System Lands.

(2) Facilities will be developed or improved to facilitate resource management, and to ensure the health and safety of employees.

Desired Future Condition

Buildings and Administrative Sites - Administrative sites on the Toiyabe will range from single building sites to integrated district complexes with multiple buildings. Three sites will have been abandoned and structures removed; twelve other sites will have been evaluated for disposal, relocation, or reconstruction by fiscal year 1995. Construction/reconstruction will be accomplished as funds become available. Maintenance on remaining sites will be contingent on funds available. Health, safety, and energy items will receive the highest priority.

Transportation - The transportation system will provide user safety, convenience, and efficiency to accomplish land and resource management objectives. Resource activities will be coordinated with road construction. The basic arterial and collector road system, approximately 800 miles under Forest Service jurisdiction, will be in place. Annually, eight miles of reconstruction will be accomplished with appropriated funds. Arterial and collector roads will be open and reconstructed to a standard that is maintainable for safe travel by a prudent driver in a passenger car. Traffic may be restricted on roads not constructed to an all-weather standard. All other construction and reconstruction will be in support of resource activities.

The basic local road system will be in place and any construction of additional facilities will be in support of site-specific resource activities. Roads identified in the Forest Development Transportation Facility Schedule will be reconstructed to a standard that is at least maintainable to protect the road investment and to keep damage to adjacent resources to an acceptable level. Public and commercial use will be prohibited on those facilities identified for inclusion in a basic custodial maintenance level. Campground and administrative site roads will be maintained at least to a level that is safe for travel in a standard passenger car. Maintenance levels for local roads will have been documented in the Forest Transportation Facility Operation and Maintenance Schedule.

LAW ENFORCEMENT

Goal

(1) The Forest will maintain a law enforcement program which assures safe use of the Forest by the public and protects National Forest resources.

Desired Future Condition

The public will be educated in proper use of the Forest. Timber theft, arson, fraudulent leasing of range privileges, mining abuses, and vandalism will be minimal. Violations will be reported and proper action taken.

MINERALS

Goals

(1) Minerals exploration and development will be encouraged while establishing reclamation policies that minimize or shorten the duration of impacts on renewable and nonrenewable surface resources.

(2) Cases of abuse of mining laws will be resolved promptly.

Desired Future Condition

Development of energy and nonenergy resources will be encouraged. Through working with industry the Forest will have developed cost effective and environmentally sound reclamation procedures. The Forest will also have worked with industry to further development and use of drilling equipment for effective exploration methods resulting in the least impact to other resources.

Any operation with potential to cause significant surface disturbance will be covered by an operating plan with provisions to minimize or mitigate effects on natural and cultural resource values. Reclamation plans will address surface disturbance and will contain provisions to return disturbed areas to as near the pre-existing condition as possible. Reclamation bonds will be calculated in accordance with the reclamation plan.

Informal mineral evaluations by qualified geologists, mining engineers, or other mineral specialists will be conducted prior to approval of operating plans for areas identified through the NEPA process as primitive, or semi-primitive nonmotorized.

Of the estimated 12,069 operating plans issued over the 50 year planning period, 80 percent will have had compliance checks. Reclamation of approximately 30,466 acres of the estimated 32,070 acres of total disturbance will have been accomplished.

RESEARCH NATURAL AREAS

Goals

(1) Research values will be preserved and protected within the Mount Jefferson, Carpenter Canyon, and Babbitt Peak RNAs.

(2) RNAs will be maintained for research, study, observation, and monitoring; and for kinds of educational activities that are not destructive or manipulative, and that ensure unmodified conditions.

(3) RNAs will contribute to:

- a) Preservation and maintenance of genetic diversity.
- b) Protection against serious environmental disruptions.
- c) The study of succession.
- d) Baseline controls for research measuring ecological and hydrological effects of land management manipulation techniques and practices.
- e) On-site and extension educational activities.

Desired Future Condition

Research natural areas will have been managed and protected to maintain established objectives. An additional RNA will have been selected to replace the Sweetwaters.

ECONOMIC AND ENVIRONMENTAL EFFICIENCY

Goals

(1) The Toiyabe will produce a mix of goods and services within the bounds of its physical, biological, social, and economic environment.

(2) The Forest will be managed in a manner that is sensitive to economic efficiency.

Desired Future Condition

Forest Service management programs will have been conducted in the least costly method of meeting the goals and objectives of the Plan.

INTEGRATED PEST MANAGEMENT

Goal

(1) Epidemic outbreaks of pests and/or diseases will be minimized through integrated pest management strategy.

Desired Future Condition

Endemic populations of bark beetles and other Forest pests will continue but with a reduction in acres affected by dwarf mistletoe. Noxious farm weeds and significant outbreaks of range pests will be treated as necessary.

FOREST-WIDE STANDARDS AND GUIDELINES

This Plan establishes standards for all resources and then emphasizes particular resources within those constraints. Better management will be emphasized for range and mineral resources and developed recreation. Multiple-use management will provide a viable mix of outputs while protecting and enhancing all resources.

Another significant feature of this Plan is the application of social resource management principles. Direction is applied to maintain or enhance local community stability and to respond to one or more of the issue topics. By addressing public issues and management concerns, the social resource is incorporated into consideration of the physical and biological resources. Response to the 11 issue topics is detailed in Chapter III.

Management requirements necessary for achieving goals and objectives are referred to as "standards and guidelines." These state the bounds or constraints within which management practices will be performed. Within this document, the terms "standard" and "guideline" are interchangeable with no difference in meaning. The Forest-wide standards and guidelines described in the following section were developed to address public issues and management concerns; and to direct management practices in order to accomplish Forest-wide goals and objectives.

All references to Forest Service Handbooks (Timber and Facilities) have been incorporated into the process records as of May 1985.

All management/resource activities will meet standards and guidelines where appropriate.

All proposed projects will have an economic analysis done and will be carried out if they are cost effective (total benefits (non-amenity and amenity)) exceeds total cost.

RECREATION

1- Manage the Forest to provide a wide variety of opportunities within the Recreation Opportunity Spectrum (see glossary for definitions and Chapter III for acres).

2- Prepare a vegetative management prescription for each developed recreation site. Objectives of the prescription are to:

   A. Encourage natural regeneration practices.

   B. Maintain and/or create an environment that is pleasing in visual aspects and which resembles a natural setting.

   C. Provide herbs, grasses, and other ground-cover plants as components of the site.

D. Create a more durable area, less prone to damage by human or pest impact.

E. Create diversity of tree size, age, and species, ultimately reducing hazard trees and the need for emergency removal.

F. Develop healthy soil conditions conducive to plant growth.

G. Create or perpetuate plant screening between occupancy units appropriate to the planned experience level.

H. Provide shade, wind protection, and sunshine diversity appropriate to the climate.

I. Provide protection from unacceptable damage by wildfire.

3- Roads, trails, and "areas" will be designated in the Ranger District travel plans and maps for motorized vehicle use.

4- Protect the scenic quality of the Forest by achieving the designated visual quality objectives (VQO), unless modified by a site-specific environmental assessment.

5- Minimize log skidding in recreation sites. Predesignate skidding in sensitive recreation areas.

6- Harden sites where occupancy is greater than 40 percent and where resource damage is occurring or expected to occur.

7- Require "pack-out" of refuse from all dispersed recreation areas.

8- Strive to clean and police developed fee sites to standards described in "Recreation Sites - San Dimas Publication."

9- Set developed site fees at an amount to recover operation and maintenance costs.

10- Campgrounds will be evaluated for cost effectiveness. Campgrounds determined to be inefficient may be closed.

11- No new recreation residence permits will be issued. Existing residences may be relocated if in hazardous or emergency areas, or areas needed for public use.

12- Conduct a comprehensive trail inventory to identify trails needing improvement, relocation, new construction, or abandonment.

13- Sierra front trails will be managed to meet planned objectives specified in the Trail Management Guide.

14- National Recreation Trails will be managed to Level IV Maintenance Standards (Toiyabe Crest National Recreation Trail would be managed at

Level III). Wilderness trails will be managed to achieve wilderness management objectives.

15 Maintain other trails to a level and at a frequency commensurate with use and management objectives. (See Trail Maintenance Guide, Table II-2.)

FIRE AND FUELS MANAGEMENT

1- Use the National Fire Analysis (FSH 5109.19) to determine the most cost efficient level of attack forces and detection and prevention programs.

2- All wildfires will receive an appropriate suppression response. Appropriate responses are confinement, containment, or control.

3- Suppression responses to wildfire are documented in the appropriate preplanned dispatching guides (Carson-Bridgeport, Central Nevada, and Las Vegas) except for specific areas for which Fire Management Area action guides are yet to be prepared. Fire Management Area action guides will determine response in sensitive areas such as wilderness. (See Management Area discussions on those areas for which such action programs are appropriate.)

4- Response to wildfire which escapes initial action will be determined in an Escaped Fire Situation Analysis which considers land management objectives, costs, damages, safety, and reinforcement capabilities.

5- Natural fuel treatment projects will meet multi-resource objectives.

6- Vegetation manipulation may be required to meet protection objectives.

7- Use planned, prescribed fire to improve or enhance resource outputs where appropriate.

8- Use planned and unplanned ignitions to restore natural ecosystems in wilderness and other areas where appropriate.

9- Cooperate with other agencies and adjacent landowners to encourage treatment of hazardous fuel accumulations where cost effective and where fuels present a threat to public lands.

10- Implement the Action Program for reducing the risk of wildfire damage on the Sierra Front (see Fire Action Program in Chapter V - Implementation).

11- Utilize interagency cooperation and the closest available forces to reduce costs of all emergencies.

12- Design prevention efforts to prevent human-caused wildfires and to minimize unacceptable resource loss.

13- Standards for planning timber sale slash treatment for all activity fuels except pinyon/juniper follow: To determine if treatment is needed use standards in Table IV-1. Use the slope class of the unit or stand, then select the appropriate fuel loading. Next, determine if the predicted crown scorch is acceptable. Crown scorch is considered acceptable if the predicted height from Table IV-2 is equal to or less than the average height to the crown base of the leave trees for the unit or stand being evaluated. This will lead to either (1), (2), (3), or (4) under "Treatment Required."

14- Standards for pinyon/juniper slash treatment are similar to those for other tree species except that they are based on less severe fire weather conditions and they do not consider leave stand damage. To determine if treatment is needed using standards in Table IV-1, start with the slope class (0-30 percent or over 30 percent) of the stand or unit to be evaluated, then select the appropriate fuel loading. This will lead to (1), (2), (3) or (4) under "Treatment Required".

15- Precommercial thinning slash treatment standards are for fire hazard reduction purposes. Treatments which exceed these standards may be applied, as necessary, for other land management considerations. These standards do not apply to stands thinned with silvicides. Fuel treatment action programs for this type of thinning must be approved by Forest fuel management specialists or Forest fire staff officers.

A. Qualitative Standards - These standards deal with planning, timing, and other qualitative measures.

1. Fuel Treatment Action Programs. A comprehensive action program for treatment of fuels will be prepared for each thinning project. This program will be based on measurement of down woody material and prediction of thinning slash to be added to the down fuel load (refer to the R-4 Fuel Management Guide for plan content).

2. Minimum Lopping Specifications. When lopping is prescribed, specifications will equal or exceed each of the following:

a. Sever limbs from the bole on at least three sides.

b. Sever all materials protruding through a plane 24 inches above ground.

c. Sever boles bridging more than 12 inches above ground level.

TABLE IV-1 SLASH TREATMENT STANDARDS
(For All Activity Fuels Except Pinyon/Juniper)

SLOPE	FUEL 1/ LOADING (Tons/Ac.)	LEAVE 2/ STAND DAMAGE	TREATMENT REQUIRED (See explanation)
0 to 30%	10 or Higher	Unacceptable	(1) Yes, needed for both control and protection of leave stand.
		Acceptable	(2) Yes, but only that necessary to insure initial attack success.
	Under 10	Unacceptable	(3) Depends on timber protection objectives, fire size is predicted at 5-10 acres.
		Acceptable	(4) No, fuelbed meets control and protection requirements.

1/ Includes both natural and activity fuels under three inches in diameter.

2/ Leave stand damage as measured by crown scorch (See Table IV-2). If crown scorch is not an appropriate measure, for example in a thin-backed fir stand, determine acceptability of fire based on other, localized factors.

TABLE IV-1 SLASH TREATMENT STANDARDS (cont.)
(For All Activity Fuels Except Pinyon/Juniper)

SLOPE	FUEL 1/ LOADING (Tons/Ac.)	LEAVE 2/ STAND DAMAGE	TREATMENT REQUIRED (See explanation)
Over 30%	5 or Higher	Unacceptable	(1) Yes, needed for both control and protection of leave stand.
		Acceptable	(2) Yes, but only that necessary to insure initial attack success.
	Under 5	Unacceptable	(3) Depends on timber protection objectives, fire size is predicted at 5-10 acres.
		Acceptable	(4) No, fuelbed meets control and protection requirements.

1/ Includes both natural and activity fuels under three inches in diameter.

2/ Leave stand damage as measured by crown scorch (See Table IV-2). If crown scorch is not an appropriate measure, for example in a thin-backed fir stand, determine acceptability of fire based on other, localized factors.

TABLE IV-2 PREDICTED CROWN SCORCH 1/ (Height in Feet)

Total Fuel Loading (Tons/Ac.)	CROWN SCORCH (F+)		
	0-30% Slope	30 to 60% Slope	Over 60% Slope
1	-	-	-
2	3	3	3
5	9	9	18
10	24	24	24
15	36	36	47
20	58	70	82
25	70	82	96
30	82	102	-
35	96	-	-
40	102	-	-

1/ Scorch height table to be used for planning activity fuel treatment (except pinyon/juniper). Scorch height shown to approximately 100 feet, stands with higher crown bases are unlikely and predictions in such a severe range should not be relied on to protect leave stands.

TABLE IV-3 PINYON/JUNIPER SLASH TREATMENT STANDARDS

SLOPE	FUEL LOADING	TREATMENT REQUIRED
0 to 40%	12 Tons/ac. or more	(1) Yes, may be partial disposal combined with lopping.
	Under 12 tons/acre	(2) Only lopping needed for loading of 5 to 12 tons per acre.
Over 40%	8 tons/ac. or more	(3) Yes, may be partial disposal with lopping
	Under 8 tons/acre	(4) None required

Lopping-Accomplished to a two-foot standard (a) all material protruding through a plane 24 inches above ground level will be severed; and (b) limbs bridging more than 12 inches above ground level will be severed.

Lopping is generally not effective in reducing fire behavior in fuels of less than three tons per acre.

3. Timing.

   a. All fuelbreaks or fire-breaks will be constructed prior to thinning. They should be designed during timber sales planning, if applicable, to avoid creating construction problems.

   b. Lop thinning slash concurrently with thinning operations.

   c. Thinning on adjacent areas will not be accomplished until the fire hazard on thinned areas is reduced to a tolerable level (normally five years or more).

   d. Delay subsequent entries in multiple entry thinning until hazard from the first entry has reached a level (when added to the new slash) which meets quantitative standards. Normally space entries five or more years apart.

B. Quantitative Standards - These standards are based on analysis of thinning slash by the activity fuel fire hazard assessment model at the Northern Forest Fire Laboratory. The objective is to provide treatment of precommercially thinned areas to provide a reasonable minimum loss to fire.

They are based on total fuel load below three inches diameter predicted during thinning. This load includes down fuels present before thinning. However, an adjustment may be made as indicated by the footnote in Table IV-4 when these down fuels constitute 30 percent or more of the total.

Slope is considered only in determining maximum fuel patch size. Smaller patches may be prescribed, if necessary, for considerations other than fire hazard. Maximum sizes may be exceeded slightly to facilitate planning, and the reasons are to be documented in the project fuel treatment plan.

Treatment alternatives are minimums for fire hazard reduction. The standards may be exceeded when necessary to meet other land management requirements. Treatments may be combined on one fuel patch when, considered together, they meet minimum standards.

Following is a brief description of treatment methods:

1. Lopping. Hand treatment to reduce fuel bed depth. Actual measurement on projects should be according to lopping specifications designed to achieve desired depth reduction.

2. Crushing. Reducing fuel bed depth without chipping or changing actual load, usually by tractor or other equipment. This treatment will usually provide a satisfactory fuel bed depth reduction.

TABLE IV-4 PRECOMMERCIAL THINNING SLASH QUANTITATIVE TREATMENT STANDARDS
(Based on Slash Under Three Inches in Diameter)

1/ Predicted and existing fuel loading under 3 inches	Minimum Treatment	Maximum Fuel Patch Size
Under 5 Tons/Acre	No treatment necessary for fire hazard reduction	160 acres under 40% slope 100 acres over 40% slope
5 to 10 Tons/Acre	Lop or crush to Regional Thinning Lopping Specifications	80 acres under 40% slope 40 acres over 40% slope
11 to 25 Tons/Acre	**Alternatives**	
	(1) Reduce single entry loading to 10 tons per acre or less by multiple entry thinning. Follow lopping standards above according to loading.	Single entry loading under 5 tons/acre use above standards for under 5 tons Loading 5 to 10 tons/acre use above standard for 5 to 10 tons/acre
	(2) Reduce slash under 3 inches to less than 5 tons per acre by burning or chipping.	160 acres under 40% slope 100 acres over 40% slope
	(3) Reduce loading of lopped or crushed fuel under 3 inches to 5 to 10 tons per acre by burning or chipping.	80 acres under 40% slope 40 acres over 40% slope
	(4) Rehabilitate by piling, burning, and reforestation.	160 acres under 40% slope 100 acres over 40% slope
	(5) No thinning.	N/A
Over 25 Tons/Acre	**Alternatives**	
	(1) Rehabilitate by piling, burning, and reforestation.	160 acres under 40% slope 100 acres over 40% slope
	(2) No Thinning	N/A
	(3) Mechanical treatment by a method that chips or masticates slash.	40 acres

1/When down woody fuels constitute 30 percent or more of the total loading under three inches, the values in this column may be increased by three tons per acre.

16- Fire Rehabilitation and Restoration will be accomplished as follows:

For all fires larger than 300 acres, an ID team, starting before the fires are controlled, will prepare a fire rehabilitation plan or determine that one is not necessary. If the fire included land administered or owned by another party, every effort will be made to include that part on the ID team and to see that the plan includes all lands burned. Smaller fires may also require team surveys and a rehabilitation plan if on- and off-site values justify such an investigation.

The team will specifically address: 1) fire suppression rehabilitation; 2) emergency rehabilitation; 3) resource adjustments; and 4) long-term resource restoration.

Before seeding is proposed, a test (e.g., tetrazoliumchemical test) should be conducted to estimate the percentage of live plant crowns and viable seed. If live plants occur at an average of no more than two feet apart, seeding is probably not necessary for recovery. Determine suitability for seeding using Table IV-5.

Grass can be seeded if the site condition is "fair" or "good." Browse species will probably not survive if the site is not at least "good" and has at least 12 inches of precipitation. Broadcasting seed without site preparation is seldom successful, but it can be used in upper elevations of pinyon, or above pinyon, if the seed can be covered with snow or ash, etc., until germination. Success is often only in new ash. At middle elevations and below, the seed should be placed only where there has been mechanical site preparation.

Sites at the lower elevations of the pinyon types and below are prone to cheatgrass invasion and its permanent establishment. Every effort should be made to reseed these areas with grasses and forbs as soon as possible after the burn. Sites at higher elevations will often recover even though cheatgrass may dominate for 10 to 15 years. But southern exposures on these higher sites will continue to be dominated by cheatgrass unless there is little or no grazing. If grazing is to be more than 10 to 15 percent on these south slopes, seeding will be necessary to prevent dominance by cheatgrass.

Fire rehabilitation should also be directed toward presuppression. Crested wheatgrass can be used as a barrier to a fire. (With precipitation less than 15 inches, use crested wheatgrass; with precipitation greater than 15 inches, use smooth brome).

A. Fire suppression rehabilitation is that work necessary to restore the site after fire suppression activities; e.g., rehabilitation of bulldozer lines. The work will be completed as soon as possible and to the extent possible by the suppression crews on the fire. All bulldozer lines will be waterbarred and seeded immediately. Erosion control and seeding on all other disturbed areas will be completed. Annual rye grass can be used as a nurse crop to help perennials become established.

B. Emergency rehabilitation will be completed only when it is necessary to prevent loss of soil and onsite productivity, loss of water control and deterioration of water quality, or when onsite life or property are threatened.

C. Resource adjustments are management constraints necessary to provide for rehabilitation. A burned area should not be grazed for two growing seasons following the burn.

D. Long-term resource restoration should be directed towards the most cost effective methods of reestablishing productivity of the site. Artificial establishment of browse plants on deer winter range is extremely difficult. Natural establishment of browse has been successful in the past. A great deal of the existing deer winter range is a result of burns that are 40 to 150 years old. Consequently, on deer winter range, monitor the burn for several years to determine success of reestablishment of browse species. If it appears unlikely that browse will be established within 10 to 15 years (it takes 35+ years for bitterbrush to become established) then artificial establishment should be programmed, if feasible. Generally speaking, there will be few areas on deer winter range where we will be able to economically establish browse. Look for micro habitats with mesic conditions such as north-facing pockets to plant browse. These small areas will serve primarily as seed sources.

TABLE IV-5 GUIDE FOR RATING SOILS ACCORDING TO THEIR RELATIVE SUITABILITY FOR RANGE SEEDINGS IN NEVADA

SOIL PROPERTY	GOOD	FAIR	POOR
Moisture regime	Aquic, xeric, ustic, and xeric and ustic bordering on aridic or torric	Aridic and torric bordering on aquic, xeric or ustic	Aridic and torric
Effective moisture 1/	>10 ins. (25 cm)	7-10 ins. (17.5-25 cm)	<7 ins. (17.5 cm)
Available water capacity	Surface 10 ins. (27 cm) >1.25 ins. (3.2 cm). Soil profile >4 ins. (10.2 cm)	Surface 10 ins. (25 cm) 0.75-1.25 ins. (1.9-3.2 cm). Soil profile 2.5-4 ins. (6.4-10.2 cm).	Surface 10 ins. (25 cm) <0.75 ins. (1.0 cm). Soil profile <2-5 ins. (6.4 cm)
Texture surface 7 ins. (17.5 cm)	LVFS, COSL, SL, FSL, VFSL, L SIL, SCL, and CL SICL with <35% C.	VFS, LFS, SC, SIC, C AND CL and SICL with >35% C	LS, LCOS, FS, COS.
Rock fragments in surface 7 ins. (17.5 cm)	GR <35%; CB <15%; ST <3%. Total rock fragments <35%	GR <35%; CB 15-35%; ST 3-15%. Total rock fragments <35%.	GR >35%; CB 35%; ST >15% Total rock fragments >35%
Depth to abrupt A-B texture boundary. 2/	>10 ins. (25 cm)	>10 ins. (25 cm)	<10 ins. (25 cm)
Depth to bedrock or hardpan	>20 ins. (50 cm)	10-20 ins. (25-50 cm).	<10 ins. (25 cm)
Electrical conductivity-saturation extract-25 degrees centigrade	<2 mmhos/cm (0.2 s/m) in upper 20 ins. (50 cm)	2-4 mmhos/cm (0.2-0.4 s/m) in upper 10 ins. (25 cm) and 4-8 mmhos/cm (0.4-0.8 s/m) in 10-20 (25-50 cm).	>4 mmhos/cm (0.4 s.m) in upper 10 ins. (25 cm) and/or >8 mmhos/cm (0.8 s/m) in 10-20 ins. (25-50 cm).
Sodium adsorption-ratio	<8 in upper 20 ins. (50 cm).	8-13 in upper 10 ins (25 cm) and <20 in 10-20 ins. (25-50 cm).	>13 in upper 10 ins. (25 cm) and/or >20 in 10-20 ins. (25-50 cm).
K x % slope 3/	<4 4/; <6 5/	4-6 4/; 6-8 5/	>6 4/; >8 5/
I x C 6/	<60	<60	>60
Soil surface morphological types. 7/	Type I & II >60%; Type IV <5%; or with mollic epipedon 8/	Types I & II 20-60%; Type IV <10% 8/	Type III <60%; Type IV >10% 8/

1/ Moisture from precipitation, run-on, and groundwater budgeted to actual evapotranspiration.
2/ Rate Vertisoles and Vertic subgroups as poor.
3/ Sheet and rill erision hazard (bare soil).
4/ For ustic bordering on aridic or torric, and aridic or torric bordering on ustic moisture regimes.
5/ For xeric, and xeric bordering on aridic or torric, and aridic or torric bordering on xeric moisture regimes.
6/ Wind erosion hazard (bare soil).
7/ See: (1) Final report. Properties, Occurrence and Management of Soils with Vesicular Surface Horizons, 1977. Contract No. 52500-CT 5(N). USDI-BLM and UNR-Ag. Exp. Sta. Eckert, Peterson, Wood, and Blackburn; and (2) Final Report. Properties, Occurrence and Management of Soils with Vesicular Surface Horizons-Effects of Trampling on Seedling Emergance. 1979. Contract No. YA 512-CT 7-14. USDI-BLM and UNR-Ag. Exp. Sta. Stephens, Eckert, and Peterson.
8/ Soils without crusting morphology are to be included in Types I & II for rating.

RANGE MANAGEMENT

1- Coordinate trailing activities with adjacent National Forest and/or BLM allotments.

2- Maintain range administration improvements at a level sufficient to meet the purpose of the project and for the life of the project.

3- Consolidate administration responsibilities where Forest lands are adjacent to public lands.

4- Develop allotment management plans for all active range allotments and wild free-roaming horse and burro territories.

5- Require supplemental feed for recreational livestock use, as necessary.

6- Ensure that water developments and other range improvements meet wildlife needs.

7- Where feasible, locate all range improvements away from travel corridors, especially trails, popular fisheries, and other water courses. When not feasible to separate the uses, incorporate design and landscape management principles to mitigate visual impacts in accordance with the Visual Landscape Handbook.

8- Provide gates or fence passage on trails as needed to facilitate access.

9- Incorporate landscape management principles, such as prescribed burning, into vegetative type conversions in accordance with the National Forest Landscape Management Handbook. Give special emphasis to retaining the natural visual integrity along travel corridors, especially roads and trails, and in areas of concentrated dispersed use.

10- Describe ecological sites, develop SCORE cards to rate ecological status and resource values, and define management strategies for rangeland management.

11- Utilize Toiyabe National Forest range suitability standards.

12- Strive to achieve or maintain a minimum of 60 percent ground cover on upland rangelands with the exceptions of low sagebrush types, Wyoming big sagebrush types, crested wheatgrass seedings, pinyon/juniper types, and south facing sagebrush types on granitic slopes of the Sierra Nevada.

13- Minimize recreation-range conflicts through Allotment Management Plan.

14- Conduct monitoring and evaluation in accordance with FSH 2209.21, Range Environmental Analysis Handbook, and the Nevada Rangeland Monitoring Handbook.

15- Achieve or maintain rangeland in satisfactory condition which is defined as: (1) having a resource value rating (RVR) of 50 or above for vegetation or other features; or (2) being in a mid-succession or higher class of ecological status; and (3) having a stable or upward trend in soil and vegetation.

NOTE: Criteria for RVR of vegetation include species, growth form, foliage type, forage value, proper use factor, production, cover, density, frequency, abundance, or other. The criteria used depend upon the particular use or benefit of highest importance of the site or area. For example, status of soil and vegetation on a watershed may be the most important resource value; or the production of browse on key deer winter range; or vegetative cover along streams; or plant diversity as related to scenic beauty.

16- Ensure that permittees maintain structural improvements in accordance with grazing permits.

17- Update allotment and territory management plans that are not consistent with the Forest Plan, following the schedule found in Chapter V.

18- Complete range analysis, including inventory and evaluation, following Regional standards and the schedule set by the Forest Supervisor.

19- Develop allotment management plans in consultation with all parties involved, including permittee(s), state, or other federal agencies, and any other organizations or individuals.

20- Each allotment management plan shall present administrative and management requirements of the specific range allotment or wild free-roaming horse or burro territory. Each plan will contain sections on objectives, actions, monitoring, and evaluation.

A. The action section will include seasons of use, number of livestock permitted, the grazing system, schedule of range rehabilitation, and schedules for initiating and maintaining range improvements. Schedules are to include priorities, responsibilities, and planned completion dates. The action section must also include a statement of actions required to allow for other uses and resources, and for resolving conflicts.

B. The monitoring and evaluation section will address actual use by livestock, production and utilization, ecological status and trends, and permittee compliance with management requirements.

21- Implement noncontinuous use management systems on all livestock grazing allotments. When feasible, use a rest rotation system when significant range is in unsatisfactory condition.

22- Prepare an annual operating plan for each grazing allotment. The annual operating plan is the action plan that implements management decisions during the current year. Annual operating plans should be mutually developed by the District Ranger and permittee.

The annual operating plan will consist of a narrative and graphics.

A. The narrative will include, where applicable:

1. Clear and definite instructions concerning management of livestock while on the allotment. This should include the schedule for each unit to be grazed, expected amount of time each unit will be grazed, allowable forage, utilization, how the livestock will be moved from unit to unit, and standards for livestock removal from the allotment.

2. Range improvement maintenance responsibility for the current year, when the maintenance will be accomplished, and the maintenance standards to be attained.

3. A list of range improvement projects to be started or completed during the current year.

4. Any necessary instructions concerning trailing and/or trucking livestock to and from the allotment.

5. Special instructions on camp sanitation and fire prevention responsibilities of the permittee.

6. Multiple-use coordination requirements with which the permittee is expected to comply, including animal control practices and compliance with endangered and threatened species requirements.

B. The graphic section should include:

1. A map showing allotment and management unit boundaries, range improvements, closed areas, and special managment situations.

2. Acceptable forms for recording actual use, losses, improvement maintenance, and other management data.

23- Involve livestock permittees, other federal and state agencies, and interested parties in the development of allotment and territory management plans. Utilize the Coordinated Resource Management and Planning Process (CRMP) as appropriate.

24- Priority will be given to range improvement on allotments with a high percentage of land in unsatisfactory condition.

25- Forage Utilization Standards described below are to be used as maximum standards for the development of proper use criteria. Design of management systems will include the specific utilization standards to be applied. These standards should be applied based on utilization of key plant species by key area. Soil disturbance may also be used to determine proper use and is often the best measure of proper use on sheep ranges and on granitic slopes.

TABLE IV-6 MAXIMUM FORAGE UTILIZATION STANDARDS

Management System	Vegetation Type	Maximum percent Utilization By Key Species			
		GRASS OR FORB		SHRUB	
		Conditions Class		Conditions Class	
		Unsatisfactory	Satisfactory	Unsatisfactory	Satisfactory
Season Long	Aspen Sagebrush, Mountain brush and grassland	40%	45%	30%	40%
	Riparian	45%	55%	20%	30%
	Alpine	30%	40%	20%	30%
Rest or Deferred	Sagebrush, Mountain brush and grasslands, Aspen	45%	55%	40%	50%
	Riparian	55%	65%	25%	35%
	Alpine	40%	45%	25%	35%

26- Proper use criteria will be established, in writing, for each unit of each grazing allotment. Proper use criteria are a mandatory part of each allotment management plan. Long-term trend studies are also mandatory to determine if proper use criteria are correct and to determine what is occurring in regard to range condition. Proper use criteria will be developed through ID team input. It is necessary that criteria be based on the factor that becomes critical first -- the limiting factor. In some range units or pastures, it may be necessary to establish more than one set of proper use criteria. This is especially true where riparian areas are involved.

Establishing proper use criteria requires ID team involvement. Proper use criteria define the permissible grazing level in the range unit or pasture.

The following standards must be observed when identifying limiting factors and proper use criteria:

A. Soil and vegetation are the basic resources. The condition of these two resources must be maintained or improved. If they are in satisfactory condition, then they must be maintained in this condition. If they are in less than satisfactory condition, then allowance must be made for improvement in condition. Any use causing a downtrend in condition of these two resources should be modified or eliminated whether caused by livestock, wildlife or any other use.

B. After requirements for the soil and vegetative resources have been provided, the other resources, such as livestock grazing, wildlife, and aesthetics, can be considered. This is the point where the ID team is involved.

Trampling of soils by grazing animals may result in either soil displacement or soil compaction. This effect of grazing may become a limiting factor before the maximum allowed utilization of the key plant species is reached. In this situation, the amount of soil displacement or compaction will determine the limit of allowable grazing use rather than utilization of key species.

Proper use guides based on soil displacement should generally be as follows: On steeper slopes and on loose sandy soils, evidence of trampling should not exceed 10 percent (light) as determined within sample plots. Usually trampling can be tolerated on slopes less than five percent and on slopes up 11 to 30 percent with heavier textured soils. Certain stream bank zones may be an exception.

Soil compaction is detrimental on heavy soils, particularly if they are wet. Meadows are most susceptible to compaction. Proper use is defined as moderate compaction or less.

27- Allow no livestock grazing for two grazing seasons after prescribed or natural fires and plantings or seedings.

28- Complete livestock adjustments needed to obtain an acceptable balance between available livestock forage and livestock numbers and season of use.

29- Notify the Nevada Department of Wildlife and the California Department of Fish and Game one year in advance of implementation of revegetation projects.

30- Allow livestock conversions based on resource needs, capability, and management objectives and not soley based on the desires of the livestock user.

    A. Conversions will be made in accordance with a management plan, and current range analysis, and if the necessary range improvement structures are in place.

    B. When conversions are made mainly for convenience of the permittee, the range improvement structures necessary to complete the conversion will be financed and constructed by the permittee. Construction will be in accordance with Forest Service standards.

WILD FREE-ROAMING HORSES AND BURROS

1- Manage wild free-roaming horses and burros in accordance with the Wild Free-Roaming Horse and Burro Act of 1971.

2- Carry out interagency agreements with the Inyo National Forest and the BLM.

3- Involve interested federal and state agencies and other groups in the management of wild free-roaming horses and burros.

4- Manage wild free-roaming horses and burros to population levels compatible with resource capabilities and requirements.

PUBLIC INFORMATION AND COORDINATION

1- Keep interested groups, organizations, and individuals informed about Toiyabe programs. Involve the public in the Forest's decision-making process.

2- Employees will follow the principles of the Forest Service Host Program in all dealings with the public.

3- Coordinate closely with local and state governmental agencies, special interest groups, and affected publics in all management activities of the Toiyabe.

READEX FICHE

WILDERNESS

1- Prepare a specific operations guide for each designated wilderness. Action programs for year-to-year or day-to-day operation will provide guidance for wilderness management personnel and district rangers. Action programs will be prepared only as needed and in a manner and format best suited to meet such need.

2- Education will be our most important tool. Districts with wilderness responsibilities will emphasize no-trace camping.

3- Administratively control use of motorized equipment and mechanized transport to sustain optimum characteristic wilderness values while managing for purposes of the Act. To the extent feasible, exclude the sight, sound, and other tangible evidence of motorized equipment and mechanical transport.

4- Travel shall be by foot or horse, or other nonmechanical means consistent with the primitive character of wilderness.

5- Strive to rehabilitate areas damaged by human activities.

6- Wilderness trail systems will be designed for resource protection and not necessarily for hiker convenience.

7- Signing in wilderness will be minimal and confined to trailheads, trail junctions, regulatory messages, and safety warnings. The Forest will phase out all other signs.

8- Evaluate all permanent improvements for compatibility with policy and regulations.

9- Cultural resource properties are compatible with wilderness values and will be managed accordingly.

10- Fires in wilderness will be managed in accordance with the fire policy of 1985 as follows:

   A. Permit lightning-caused fires to play, as nearly as possible, their natural ecological role within wilderness.

   B. Reduce to an acceptable limit the risks and consequences of wildfire to life and property within wilderness; and to life, property, and natural resources outside of wilderness.

11- Criteria under which lightning fires would be permitted to burn will be established in wilderness fire action programs.

12- Prescribed fire may be used in wilderness to meet wilderness objectives when they cannot be met through lightning-caused fires.

13- The Forest may use planned or unplanned ignitions to provide the role of fire in natural ecosystems.

14- Use fire retardant in wilderness only when fires pose an imminent threat to human life or property, or will cause unacceptable resource damage outside wilderness.

15- Fire suppression practices will have minimal impacts on the wilderness resource. Fire fighters will return fire lines to as close to a natural state as possible. Use of natural barriers and low impact suppression techniques will be emphasized.

16- Aircraft may be used for the duration of emergencies such as fire, search and rescue, and when life or property are threatened. Whenever possible, natural openings will be used for helispots. Helispots will be constructed only when no feasible natural opening can be found. Constructed helispots will be rehabilitated to promote rapid healing of the site.

17- Mining operating plans will address wilderness values and ways to protect them. Reclamation efforts will serve to return the land as closely as possible to its natural condition.

18- A validity examination will be conducted for all proposed mining operations in wilderness.

19- Managers will determine the recreation carrying capacity for each wilderness and keep each wilderness in high ecological condition.

20- The Forest will coordinate the Toiyabe's wilderness management with that of adjacent forests.

21- A self-service wilderness permit system will be implemented for the California wildernesses.

TIMBER

1- Use even-aged silvicultural systems in all forest types except for modifications needed to realize management objectives in special areas.

> Jeffery pine, lodgepole pine, and mixed conifer species will be managed using a seed-tree cut, two-step shelterwood, three-step shelterwood, selection, or sanitation cut (salvage), as determined by a certified Silviculturalist. Precommercial and commercial thinning will also be used as called for in the written silvicultural prescriptions.

2- Standards for planting, seeding, and reforestation are in Forest Service Handbook 2409.26b. Cone collection is a part of the reforestation process; standards are in Forest Service Handbook 2409.26-F.

3- Develop area transportation analysis for zones of influence for each timber sale at least five years prior to sale date.

4- Construct a minimum of temporary timber access roads. Physically close and stabilize temporary access roads immediately upon completion of the required use including programmed firewood cutting.

5- Delineate patch cuts to repeat natural lines and forms of the surrounding landscape. Cable logging needs may require some amending of the shape. Clearcutting will not normally be used as a harvestin mehtod, but may be used to control insect and disease, or to meet other multiple-use objects. These will be identified through the site-specific analysis.

6- Permit tractor logging generally on slopes 35 percent or less; 30 percent or less on granitic soils. Develop a site-specific environmental analysis for each timber sale, and allow tractor logging on steeper slopes if on-the-ground conditions are suitable.

7- Allow no skidding through live streams. Skid over log bridges or use other types of structures to protect stream crossings.

8- Apply a modified prescription on potential recreation sites that are inventoried for construction within the next 50 years.

9- Locate slash piles away from streams or drainage channels so that residues will not reach perennial streams.

10- Where possible, use timber management activities to reduce fuel/fire hazards to acceptable levels.

11- Fuels generated by timber management activities will be treated where necessary to protect the residual stand or to otherwise meet land and resource management objectives. If fuels cannot be adequately treated, then activities generating these fuels will not be undertaken.

12- Where possible, utilize timber sale residues for fuelwood.

13- Incorporate wildlife travel corridor requirements in developing road design and construction standards.

14- Protect bristlecone pine, including dead wood, for aesthetic and scientific values. Authorize only administrative, educational, or research uses.

15- Consider necessary thermal cover for big game in designing thinning projects on winter range.

16- Timber utilization standards will be in compliance with regional standards.

17- Lands classified as suitable or unsuitable for timber production will be determined using the following "Tentatively Suitable Forest Land Classification Process:"

A. Forest Land. All lands meeting the definition of "forest land" are considered as suitable for timber production.

B. Forest Land Withdrawn From Timber Production. Lands designated by Congress, the Secretary, or the Chief for purposes that preclude timber production are to be classified as unsuitable. The act, order, or decision must include a legal description of the designated land, or a reference to a map, pending boundary survey and description, and include an effective date. Congressionally designated wilderness study areas and roadless areas endorsed by the Administration for wilderness classification are also withdrawn from timber production. Examples are units of the National Wilderness Preservation System, Primitive Areas, and Research Natural Areas. No other RARE II lands shall be considered withdrawn unless an individual state wilderness act so designates. Lands not withdrawn shall be further considered for timber production suitability.

C. Forest Land Incapable of Producing Industrial Wood. Lands that are not capable of producing crops of industrial wood are by definition to be classified as unsuitable for timber production. Species of trees which are not currently utilized, or not expected to be utilized within the next 10 years, constitute the primary criterion for assigning lands to this category. This included the pinyon/juniper forest lands. This does not preclude, however, the formulation of an alternative to display management opportunities, if a demand develops.

D. Physically Suitable Forest Land. Forest lands physically suitable for timber production are lands where technology is available to ensure timber production, without irreversible resource damage to soil productivity or watershed conditions, and lands where there is reasonable assurance that they can be adequately restocked within five years. The latest developments in technology documented through current research and use are to be considered in these determinations. Economic efficiency is not a factor in the determination of physical suitability.

E. The test of irreversible resource damage was performed by an ID team. It determined if activities involved in timber production can be carried out on forest land without irreversible resource damage to soil productivity, fish or wildlife habitats, or watershed conditions. As a minimum, activities considered included access, harvesting, slash disposal, and regeneration. If these could be be accomplished with available technology and without impairment to the site or drainage, the land was considered as tentatively suitable. Available technology is that which is in use or which current research and experience indicates to be feasible to use. Current research and experience should indicate that the technology is feasible to use successfully for the site, species, and other factors involved. Current use does not have to be within the Forest or region.

F. The second test shall be to determine if there is reasonable assurance that the remaining Forest lands can be adequately restocked within five years of final harvest, based on existing technology and knowledge. Current research and use shall be the basis for determining if the practices planned can be expected to be successful at the time of final harvest. When existing knowledge is inadequate to determine which practices will be successful on certain lands, but research is underway which should resolve this question prior to a final harvest, then the applicable lands may be included as tentatively suitable. However, these lands shall be maintained as a separate, noninterchangeable component of the allowable sale quantity.

G. Management Prescriptions. Management prescriptions, which include timber production functions, shall be developed on a per acre basis for all Forest land that is identified as tentatively suitable.

H. Suitable Forest Lands. Tentatively suitable lands, screened out as not appropriate in each alternative, shall be classed as unsuitable for timber production. Conversely, those Forest lands that were not screened out during the various steps in the foregoing process were classed as suitable for timber production.

I. As provided in 36 CFR 219.14(d), the Forest must monitor changes in conditions which may have an effect on suitability classification in the Plan. For example, if there is new market interest for unsuitable lands, or new technology is developed that ensures unsuitable lands can be adequately restocked within five years after final harvest, then an analysis of the classification should be performed and the Plan amended. If the amendment is significant, the entire suitability process must be redone (36 CFR 219.10 (f)).

J. Review lands unsuitable for timber production at least every 10 years. These may be redesignated as suitable for timber production, according to the criteria in 36 CFR 219.14(a) and .14 (c).

K. Lands Not Appropriate for Timber Production. The objectives of the benchmarks and alternatives shall be used to determine which tentatively suitable lands are not appropriate for timber production. Consequently, the amount of land not appropriate for timber production varies among the benchmarks and alternatives because of the conditions discussed in FSH 2412.41-.43.

L. Timber Production Precluded. This condition applies to the benchmarks and alternatives where management direction precluded timber production activities from specified areas. This was to provide for nontimber-related benefits or uses, such as assigning certain land inventoried for wilderness management.

18- Where possible, use timber management activities to improve wildlife habitat and forage for domestic livestock.

19- All timber sales will have site-specific analysis, including economic analysis. Sales will be made in accordance with the following:

A. Sales that claim multiple-use benefits will be made only if the timber sale is the most efficient method to meet multiple-use objectives.

B. Where only timber benefits are claimed, sales will be sold at a value where receipts meet or exceed Forest Service costs.

20- The following pinyon/juniper management guidelines are suggested for use. These are based on the assumption that an environmental analysis has been done and that the resource manager and line officer have made a decision concerning the best use for the specific site.

A. All snag, riparian area, old growth, and other Forest standards will be followed while treating any area.

B. Caution will be taken by the resource manager while treating pinyon/juniper areas so that whatever treatment is used, invasion by cheatgrass and other "weed" species will not occur.

C. Clearings generally will be limited to fewer than 40 acres.

21- Four main objectives for treatment of the pinyon/juniper resource were identified and specific guidelines developed. Many treatments not specifically identified will fall into these four objectives, with slight change of cutting cycle and/or intensity. It is up to the resource manager to identify the objective of the treatment and apply guidelines as needed, tailoring them to each specific area. The four main objectives identified are:

A. Forage production for livestock
B. Deer and elk habitat improvement
C. Wildlife habitat diversity improvement
D. Sustained yield of pinyon pine and juniper

22- Where forage production for livestock is the primary objective, the following guidelines will be applied:

A. Harvest sites must classify as suitable range.

B. Soils must be of a moderate or high potential for producing forage, i.e., greater than 300 lbs/acre, air dry weight.

C. If criteria A and B are met, then apply the following:

1. Desirable species of forage exist at a level sufficient when released to occupy the site.

a. Cut trees of all ages and sizes

b. Determine if slash is needed to meet ground cover requirements.

- Yes, then lop and scatter slash

- No, then pile slash on stumps and burn

2. Sparse understory of forage exists.

   a. Cut trees of all ages and sizes at a stump height of four to six inches above ground level to allow drilling.

   b. Determine if the site is suitable for mechanical seeding; e.g., drilling.

      - Yes, then remove slash by broadcast burning and/or piling slash on tree stumps and burning. Drilling should follow shortly after burning to reduce chances of invasion by cheatgrass.

      - No, then lop and scatter slash and broadcast seed in the fall.

23- Deer and elk habitat improvement will be considered where applicable. These standards will be used to produce openings where desirable amounts and species of browse will be released for elk and deer winter range. Techniques to produce the openings are similar to those used for forage production for livestock. However, there are several limitations placed on the size and amount of clearings in any area which provide for the total needs for wintering deer and elk.

A. Cut all trees of all sizes.

B. Where a desirable browse understory exists:

   1. Pile slash on tree stumps and burn to reduce slash to achieve the Forest Standard for fuels loading. Leave two piles/acre cover for rodents and other small animals.

   2. Use maximum clearing width of 1200 feet.

   3. Design units to achieve irregular edge or natural appearing shapes.

   4. Maintain a mosaic of clearings mixed with untreated stands.

      a. No more than 60 percent of the planning unit with less than 15 percent slope will be cut.

      b. Fifty percent of the planning unit will be maintained for cover.

C. Where no desirable browse understory exists:

   1. Guidelines 2 to 4 in "B" above will apply.

2. On sites suitable for drilling use the appropriate slash disposal method depending on quantity of slash available.

3. On sites where seed drilling is not possible, lop and scatter slash to maintain the microsite, and broadcast seed if desired. If necessary, then pile or windrow perimeters of the units so that access to the area is not blocked and fuel loading is reduced.

24- Wildlife habitat diversity improvement will be considered where applicable and the following standards applied:

A. Maximize diversity of plant species.

1. Thin trees leaving an all-age mix of trees to create small openings.

2. Create openings so that desirable brush and grasses are released.

B. Pile slash and leave where fuel loading meets standards. If necessary, burn some piles to reduce fuel loading. Do not lop and scatter slash.

25- Sustained yield of pinyon/juniper will provide many products depending on the degree and timing of the harvest. These products include fuelwood, pine nuts, and juniper berries. Site-specific factors and desired products will be considered during analysis to determine actual harvest techniques.

A. Where a well-stocked understory of pinyon/juniper seedlings and saplings is present (150 to 175 trees/acre), then:

1. Cut all trees greater than four inch diameter at the butt.

2. Pile slash on tree stumps to protect existing pinyon seedlings which will result in a regenerated stocked stand. Where a large amount of slash exists (greater than 12 tons/acre), pile a portion of the slash on tree stumps to protect the seedlings, and pile the rest in large piles in the interspaces where there is little or no brush or tree reproduction.

3. Keep undesirable species composition to less than 15 percent of the stand stocking level (trees/acre).

B. Where no pinyon/juniper understory is present, then:

1. Use a shelterwood system leaving 40 to 50 percent of the original overstory trees to provide a good microclimate (shade) to protect existing seedlings and to provide for establishment of new seedlings. The remaining trees will be the best trees for seed production in the stand.

2. The stand will be left alone for at least five years before the stocking level of seedlings will be inventoried.

   a. If seedlings are doing well and there are sufficient numbers for a stocked stand, then, where desirable, cut the remainder of the overstory trees using appropriate slash techniques to protect existing seedlings under the trees.

   b. If there are no seedlings, or there is a limited number, then use no treatment until such a time when a sufficient number of seedlings are present to leave an adequately stocked stand.

SOIL AND WATER

1- For purposes of carrying out portions of the State Water Quality Management Plan pertaining to activities on the Forest:

   A. Meet responsibilities in the Management Agency Agreement between the State Water Resource Control Board, State of California, and the Forest Service, dated April 1, 1981.

   B. Meet responsibilities in the Memorandum of Understanding between the Forest Service and the Division of Environmental Protection, Nevada Department of Conservation and National Resources.

2- Any activity involving discharge of dredged or fill material into waters of the United States or their adjacent wetlands will be reviewed for compliance with Section 404 of the Clean Water Act.

3- Implement "Best Management Practices" for protection and improvement of water quality and soil productivity as described in "Water Quality Management for National Forest System Lands in California" and the state of Nevada nondesignated area water quality management plan "Handbook of Best Management Practices."

4- Meet or exceed state water quality standards as found in California's "North Lahontan Basin Water Quality Control Plan" and the "The State of Nevada Water Pollution Control Regulations."

5- Protect soil productivity and water quality by adhering to erosion prevention and control measures presented in the publications: "Technical Guide - Erosion, Prevention and Control on Timber Sale Areas - Intermountain Region" and "Soil and Water Management, Nov. 1979."

6- Soil disturbing activities will not exceed estimated soil loss tolerance limits Forest-wide (300 lbs/acre/year for granitic and 500 lbs/acre/year for other soils). Exceptions may occur on specific sites where maintenance of soil productivity is not feasible (e.g., construction projects) or where research or administration studies demonstrate more accurate tolerance limits. The modified Universal Soil Loss Equation, the R1/R4 Sediment Yield Model, or other appropriate methodologies will be used to evaluate soil loss differences between project alternatives.

7- Conduct Order II Soil Survey or field verified Order III Soil Survey on significant site disturbing or vegetative manipulation projects and on rangeland benchmarks.

8- Congress has directed the Forest Service to administer National Forest System lands for multiple-use purposes. These purposes have been stated in the Organic Administration Act, Multiple-Use Sustained-Yield Act, Wilderness Act, Wild and Scenic Rivers Act, and other legislation and Executive Orders. The water needed to successfully accomplish the program mandated by these acts and executive orders will be protected. Protests will be filed for applications of water rights where the exercise of such rights would adversely affect National Forest resources or water rights of the United States.

9- Water needed for National Forest System management, but not available under state law and not meeting the Supreme Court criteria for a reserved right under the Organic Administration Act, will be secured by citing the applicable federal law and conditioning occupancy permits.

10- Whenever water rights are authorized by federal or state law, these will be quantified, documented, and recorded. Applicable fees will be paid by the benefitting resource unit.

11- Assert a federal reserved water right for water needed for programs of timber management and watershed management including fire protection. A reserved right will also be used to acquire water needed for instream flow sufficient to maintain stability of the stream channel for purposes of securing favorable conditions of water flow, and for protecting against loss of productive timber lands adjacent to stream channels.

12- Quantification of instream flows to secure favorable conditions of water flow will be accomplished over a 10 year period by priority. Immediate quantification will be done in support of Forest Service protest of water right applications by others and for adjudications. Second priority will be the progressive quantification by 1995 of instream flow needs according to area as shown in the following table:

Priority	Area
1	Sierra Division
2	Central Nevada Division, Management Areas 7 and 8
3	Central Nevada Division, Management Areas 9 and 10
4	Las Vegas Division

13- Maintain watershed administration improvements at a level sufficient to meet the purpose of a proposed project, for the life of the project.

RIPARIAN AREAS

1- All standards and guidelines listed for soil, water, and range management apply to riparian areas.

2- Recognize the importance and distinctive values of riparian areas when implementing management activities. Give preferential consideration to riparian area-dependent resources over other resources in cases of unsolvable conflicts.

3- Delineate and evaluate riparian areas prior to implementing any project activity.

4- Design range and wildlife habitat improvement projects and/or silvicultural prescriptions in riparian areas to benefit riparian area-dependent resources.

5- Manage riparian areas to achieve or maintain a medium or high ecological status.

6- Give priority to range, wildlife habitat, and watershed improvement projects that will rehabilitate riparian areas that cannot be restored in a timely manner by other management techniques. Use fencing for protection of riparian areas only where no other viable alternative exists.

7- On streams where Lahontan cutthroat and Paiute cutthroat trout are present or scheduled for introduction, the riparian areas should be maintained or improved to a "good" or "excellent" resource value rating for fisheries.

8- Maintain or improve the Biotic Condition Index (BCI) on 95 percent of the streams to a minimum standard of 85 BCI.

9- Manage beaver to maintain or enhance riparian conditions. Maintain beaver within habitat capability.

10- Strive to achieve and maintain at least 90 percent of the natural bank stability for streams supporting Lahontan or Paiute cutthroat trout, and 80 percent on all other streams.

11- Locate salt and sheep bedgrounds outside riparian areas.

12- Place new livestock water developments outside riparian areas.

13- Move inventoried water developments out of riparian areas when and where feasible.

14- Require a mineral evaluation by a qualified geologist, mining engineer, or mineral specialist prior to approving operating plans in key riparian areas.

15- Avoid direct and indirect support of floodplain development and new construction in wetlands wherever there is a practical alternative.

16- Capitalize on opportunities to resolve and preserve the natural and beneficial values served by floodplains; and to preserve, enhance, and manage the natural and beneficial values of wetlands.

17- Provide fish passage at all crossings of known fish habitat by meeting the requirements for fish passage and adhering to guidelines specified in "Fish Migration and Fish Passage, A Practical Guide to Solving Fish Passage Problems," USDA Forest Service, Region 5, Sept. 1977.

18- The land manager, utilizing interdisciplinary team inputs, will assure that any necessary stream alteration is carried out in accordance with prescribed specifications to meet at least the following performance criteria:

A. Avoid channel changes wherever feasible.

B. In any needed channel work, every reasonable effort shall be made to preserve the natural aquatic environment, or minimize adverse effects. Where channel changes are deemed necessary, natural channel velocities shall not be increased in the affected stream reach. This will be assured by installing drop structures, by constructing acceptable meanders, or by other approved methods. Where drop structures are installed, they shall be designed to permit fish passage, if the stream supports a fishery.

C. Where water velocities are increased by the placing of a bridge or culvert, or other activity, precluding established fish movement upstream, suitable facilities shall be installed to allow for unrestricted fish passage.

D. Construction and other activities affecting stream channels shall be limited to those periods when such activities will have the least detrimental effect on the aquatic environment, unless emergency situations deem otherwise.

E. Adequate mitigation measures shall be taken if construction or other activities will adversely affect water temperatures.

F. Construction and other activities affecting channels above spawning areas shall be deferred if they will adversely affect eggs or alevins in the gravel.

G. When channel changes or alterations are the best alternative, mitigating measures shall be provided to foster replacement of the aquatic habitat to as near a natural condition as possible.

H. Streamside vegetation shall be maintained if feasible; or if destroyed, shall be replaced to provide for the necessary needs of the aquatic environment.

I. When channel changes are unavoidable, new channels shall be completed, including scour and erosion protection, before turning water into them.

J. Construction equipment service areas shall be located and treated to prevent gas, oil, or other contaminants from washing or leaching into streams.

K. Streamside vegetation shall be protected or replaced when its removal will result in:

  1. Increased stream temperature detrimental to aquatic habitat.

  2. Increased turbidity, bedload, and suspended solids which would be detrimental to fish-spawning beds or other aquatic habitat.

L. In road construction, maintenance, and other earth-moving activities, the toe of overcast material shall be placed above the mean high-water line. If the best alternative is to encroach on the stream, construction methods and/or structural barriers shall be used to prevent fill material from entering the stream channel.

M. All temporary roads associated with timber harvesting or other activities shall be constructed to grades not exceeding safe limits for surface water control and contain sufficient water bars or other structures to prevent eroded materials from reaching streams.

N. On sidehills and near channel crossings, road drainages shall discharge where sediment can settle out before runoff reaches a stream channel, unless this is clearly unfeasible.

O. Water collection systems installed to protect roads or facilities shall be designed so that waters turned onto slopes or into natural channels will not exceed the safe capacity of the slopes or channels.

P. Transport of sediment from disturbed areas shall be minimized by flocculation, ponding, vegetative barrier strips, or other means.

Q. Do not locate log landings adjacent to stream channels or on areas where surface runoff will discharge directly into the channel.

R. Roadway sections parallel and contiguous to stream channels shall be designed, constructed, and maintained to minimize concentrated surface runoff from the roadbed and slopes. Special design features, such as slope drains, insloping, crowning, berms, or other facilities, shall be provided as appropriate.

S. Wash-water from gravel-crushing operations shall be treated so that the level of turbidity of discharge water does not exceed the turbidity level, at normal flow, of the stream into which it is released.

T. Avoid construction during wet season or other undesirable runoff periods to minimize sedimentation directly into streams. If construction is essential during such periods, sedimentation damage will be minimized by installing debris basins or using other methods to trap sediment.

U. Wheeled, track-mounted, or other heavy equipment shall not be operated in stream courses except when approved by the land manager at designated crossings; or, if essential to construction activities, as specifically authorized by the land manager.

V. Flushing of desilting basins, ponds, and reservoirs into streams is prohibited.

W. All industrial, residential, and recreational developments shall, when physically feasible, use a recharge pond rather than the stream as part of the storm drain system.

X. Borrow materials from stream channels only where this is not detrimental to water quality, fisheries, or channel hydraulics.

Y. Unless needed to improve channel hydraulics or to improve the aquatic environment, borrow material shall not be removed from channels that are within or contiguous to established recreation areas.

Z. Revegetation of lands impacted by channel changes shall be done with available native plants and appropriate nonnative plants.

AA. Lands impacted by stream channel operations and lands contiguous to streams that have been altered by construction activities shall be reshaped to as near natural conditions as possible, prior to revegetating.

BB. Logging and construction operations shall be conducted to prevent debris from entering stream channels.

CC. Trees shall not be felled into streams, lakes, or bogs.

DD. Bridges, culverts, water level recording, and stream channel protection facilities, including riprap, shall be designed and constructed to harmonize with the natural environment.

EE. The total scenic value shall be considered when an evaluation dictates the need for a road paralleling a stream. For example, a stream channel change, properly designed and constructed, might result in a road with less adverse visual and physical impact than would construction of the road across a steep slope.

FF. Altered streambanks shall, wherever feasible, have slopes which are not barriers to recreation use.

GG. Unless absolutely essential for the purpose of correcting an existing channel problem or to protect life and/or property, or to enhance the aquatic environment, stream channel changes and encroachments shall be prohibited on streams within or contiguous to established or proposed recreation areas.

HH. When it is necessary to use flood plains or basins for recreation, streams will not be channelized to protect recreation structures and facilities from flooding.

II. Where channelization is done, the impacted area shall be shaped and revegetated in a manner compatible with natural stream dynamics.

JJ. If access along a streambank is needed under a bridge span to be built over a large stream, then the bridge shall be sufficiently long to provide room for such access.

KK. Where streams offer boating or floating opportunities, channel structures or alterations shall allow for safe passage and not detract from scenic qualities.

LL. Culverts, bridges, and other facilities shall be designed to pass, or to protect against, floods which may be reasonably expected to occur during the life of the facility. Selection of flood design should consider the relationships between risk and hazard of failure and the costs, monetary and nonmonetary, of providing protection.

MM. Culverts or bridges or hardened fords shall be required on temporary roads associated with timber harvesting or other activities, at all points where it is necessary to cross stream courses. Such facilities shall be of sufficient size and design to provide capacity for the flow of water anticipated during the period of use of the road. When the temporary road is no longer needed for the purpose for which it was designed, all bridges and culverts shall be removed. When such facilities are removed, associated fills shall also be removed so that they will not be affected by the stream. Removed fill material shall be shaped to blend with the natural terrain, and all disturbed soil revegetated.

NN. No soil materials shall be used to cover the decks of temporary bridges.

OO. When flow in a stream course is temporarily diverted to accommodate construction or other activities, such flow shall be restored to the natural course prior to the runoff season.

PP. All culverts shall be bedded and backfilled in accordance with approved engineering practices.

QQ. Upon completion of a project or activity, all temporary roads shall be "erosion-proofed" by cross ditches, ripping, seeding, or other suitable means. As needed, silting ponds or other facilities shall be provided to prevent silt-laden water from entering streams.

RR. Riprap or other erosion protection materials should be of sufficient size and placed in such a manner as to withstand peak flows comparable to a 25-year flood, except where associated with major bridges which are designed for passage of a 100-year flood.

SS. Riprap or other protection materials shall extend below the bed of the stream sufficient to protect against scour and to a height sufficient to protect against the predicted or recorded 25- or 50-year flood occurrence, as appropriate.

TT. Riprap material shall be of a quality that will not deteriorate during the length of time that it is determined to be needed.

UU. Riprap and other erosion protection material shall be placed in such a manner as to prevent any downstream erosion.

WILDLIFE AND FISH

1. Snag management minimum reguirement on available productive (capable) Forest Land, when vegetative manipulation is done, will be as follows:

A. Jeffrey pine/mixed conifer/red fir.

Average one snag/acre, 16 inch DBH, 48 feet high, dead five years or more.
Average one snag/acre, 16 inch DBH, 16 feet high, dead five years or more.

Obvious live cull trees can be substituted for dead trees if it appears they will die within 10 years.

Future snags: (green trees):

Average two /acre, 16 inch DBH, 30 feet high.

B. Lodgepole pine.

Average one snag/acre, 12 inch DBH, 30 feet high, dead five years or more.
Average one snag/acre, 12 inch DBH, 12 feet high, dead five years or more.

Future snags (green trees):

Average one /acre, 12 inch DBH, 30 feet high.

C. Riparian areas. These are defined as "Geographically delineated areas, with distinctive resource values and charateristics, that are comprised of the aquatic and riparian ecosystems, floodplains, and wetlands. They include all areas within a horizontal distance of 100 feet from the edge of perennial streams or other water bodies."

Average two snags/acre, 16 inch DBH, 30 feet high, dead five years or more.
Average two snags/acre, 16 inch DBH, 16 feet high, dead five years or more.

Future snags (green trees):

Average two /acre, 16 inch DBH, 30 feet high.

D. Forest openings. These include all nonforested areas larger than five acres in size.

Average one snag/acre, 16 inch DBH, 48 feet high, within 100 feet of the opening edge, dead five years or more.

Average one snag/acre, 16 inch DBH, 48 feet high, within 300 feet of the opening edge, dead five years or more.

Average two snags/acre, 16 inch DBH, 16 feet high, within 300 feet of the opening edge, dead five years or more.

Obvious live cull trees meeting the minimum standards can be substituted for snags if it appears they will die within 10 years.

Future snags (green trees):

Average one /acre, 16 inch DBH, 30 feet high, within 100 feet of the ectone.

Average one snag/acre, 16 inch DHB, 16 feet high, within 100 feet of the ecotone.

E. Snag distribution. It is not intended that the prescribed number of dead leave trees per acre be applied to each acre; however, neither is it the intent that dead tree in large concentrations be averaged with large areas void of dead trees to meet the minimum prescribed number per acre. Dead trees should be well-distributed for wildlife.

F. Aspen. Retain 10 percent of all naturally occurring snags. Retain live trees showing wildlife use such as cavities. Aspen snags should be (>) 10 inches DBH and (>) 20 feet high.

G. Pinyon/Juniper. Retain 60 percent of all naturally occurring snags. Retain live trees showing wildlife use, such as cavities, unless the prescription calls for complete removal of trees.

2. The following standards apply to old growth habitat. Ten percent of the available productive (capable) Forest land will be managed as old growth habitat (by timber type-Jeffrey pine, mixed conifer, and lodgepole pine).

A. Average three quality snags per acre.

B. Average three to four dead and down logs (Class 1 or 2) per acre with a minimum size of 21 inch DBH and 20 feet long.

C. Keep overall crown closure greater than 50 percent.

D. Retain 14 or more old growth stems per acre; over 21 inch DBH in pinyon/juniper and mixed conifer; and 17 in DBH in lodgepole pine.

E. Retain presence of heart rot and other signs of decadence.

F. Minimum size of old growth stand should be at least 100 acres. In the Sierra, old growth stands should be connected by corridors, when possible, for small mammals such as pine marten, flying squirrels, etc.

3. The following standards apply to sage grouse habitats.

A. Use dropping counts, sage grouse sightings, and historical records to reveal location and importance of sage grouse habitat.

B. Maintain 20 percent to 55 percent canopy cover on sage grouse range.

C. Use irregularly designed patterns when manipulating brush in sage grouse habitat.

D. Maintain meadows in sage grouse range in high ecological status. Where meadows have lost their natural characteristics because of lowered water table, trampling, overgrazing, road building, or for other reasons, take measures to restore the meadows.

E. Maintain desirable sagebrush habitat within two miles of leks.

F. Retain irregular leave strips of untreated sagebrush approximately 100 yards wide adjacent to stream bottoms and meadows.

G. Include the use of a combination of forbs and grasses desirable to sage grouse when rehabilitating sage grouse habitat.

H. Maintain desirable sagebrush habitat on known sage grouse wintering areas.

I. As appropriate, National Forest personnel will arrange a joint on-the-ground review of proposed projects with the proper local or state wildlife biologist so details of wildlife coordination can be explained and discussed.

J. Protect critical areas for sage grouse brood rearing.

4- Manage ecosystems containing sensitive plant and animal and threatened and endangered animal populations to maintain or increase these populations and to achieve recovery.

5- Coordinate management practices which may affect threatened and endangered animal species with the US Fish and Wildlife Service, and California and Nevada state wildlife agencies.

6- Improve habitat for threatened or endangered species, and sensitive species that have been adversely affected by man's activity in wilderness areas.

7- Apply grazing management systems aimed at improving key habitat for big game animals and fisheries. As a maximum, browse utilization by livestock or wild horses on key winter ranges will not exceed 30 percent on those areas prior to big game use.

8- Minimize disturbing activities (grazing, timber, mining, etc.) on key mule deer habitat (fawning areas, winter range, riparian areas, holding areas, migration corridors, etc.).

9- Manage habitats of wolverine, Mount Lyell salamander, yellow warbler, and other wildlife species that may have declining populations or narrow habitat requirements, to assure viable populations and reasonable distributions. Encourage surveys and other data gathering activities for these species.

10- Limit predator control to specific problem animals and/or areas.

11- Encourage introductions, reintroductions, and augmentation for important wildlife and fish species. These programs will be coordinated with state wildlife agencies and adjacent federal agencies.

12- Manage aspen stands at a midsuccession or higher ecological status with emphasis on improving age-class structure.

13- Utilize the timber program as a tool in accomplishing vegetative management projects. Use commercial timber sales and pinyon/juniper management to improve diversity and wildlife habitat.

14- Retain an average of three down logs per acre as wildlife habitat. Minimum down log size will be 15 inches in diameter at the large end and at least 15 feet in length.

15- Perform field inventories to identify habitat occupied by threatened and endangered species. Determine habitat needs and management strategies.

16- Maintain wildlife administration improvements at a level sufficient to meet the purpose of project and for the life of the project. Cooperative NDOW fishery surveys will be completed as per Memorandum of Understanding (MOU).

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES

1- Manage Forest habitats and activities to achieve recovery of threatened and endangered plant species and to ensure that sensitive plant species do not become threatened or endangered.

2- Determine distribution, status, and trend of threatened, endangered, and sensitive plant species and their habitats on Forest lands following the schedule set by the Forest Supervisor.

3- Coordinate Forest programs with other federal agencies, states, and other groups and individuals concerned with the conservation of threatened, endangered, and sensitive plant species.

4- Prohibit the taking of threatened and endangered plant species except under Fish and Wildlife Service permit. Prohibit the collection or taking of sensitive plants except as authorized by the Forest Supervisor.

HUMAN RESOURCES

1- Support the Intermountain Region Affirmative Action Plan.

2- Inform the general public, including minorities and the underprivileged, of benefits and opportunities available through Forest programs.

3- Coordinate resource activities when common boundaries exist with Yomba, Washoe, and Paiute Indian lands.

4- Emphasize programs that involve local youth (particularly local minority youth), senior employment services, and volunteers.

CULTURAL RESOURCES

1- Standards and guidelines will be consistent with procedures accepted by the State Historic Preservation Office (SHPO), guidelines followed by the Nevada BLM, and professionally accepted standards supported by the archaeological community in the area. Direction in this Plan calls for full implementation of these standards and guidelines in managing cultural resources on the Forest and in complying with applicable federal laws and regulation including but not limited to: the National Historic Preservation Act of 1966, as amended (NHPA); Executive Order 11593; the implementing regulations in 36 CFR 800 and 36 CFR 60; supplementary Advisory Council guidelines; the Antiquities Act of 1906; and the Archaeological Resources Protection Act of 1979. Consultation with the SHPO, the President's Advisory Council on Historic Preservation, and the Keeper of the Register will be conducted, as appropriate, in fulfilling responsibilities under Section 106 of the NHPA, as implemented by 36 CFR 800, and the regulatory mandates of 36 CFR 60.

2- In consultation with the SHPO and in coordination with other federal and state agencies, Forest-wide and area or site-specific plans will be developed. Such plans will include management recommendations and alternatives for properties on, or eligible for the National Register as well as for properties which do not necessarily qualify for nomination. To the extent possible, plans will guide further inventory and evaluation needs and be in concert with the State Historic Preservation Plan.

3- Complete a Cultural Resource Overview by 1988 and use as a guide in conjunction with the State Historic Preservation Plan for project survey and Forest-wide cultural resource management (CRM).

4- Conduct, in compliance with EO11593 and the NHPA, a professionally supervised, cultural resource management program. Paraprofessional training will require a 40-hour course. Paraprofessionals can conduct small, noncomplex surveys and projects independently with professional review, and work directly with a CRM specialist on more complex projects or in areas of high sensitivity.

5- Conduct Forest-wide programmatic inventory. This will aid in planning, management decisions, and the development of an inventory of National Register properties. To implement Forest-wide inventory, base data will be prepared for identifying high and moderate sensitivity for cultural resources. Priority will be given to areas with the highest predictability and based on issues, values, risks, and input from the SHPO as appropriate.

6- A cultural resource inventory will be conducted prior to surface disturbing projects and when there is an agency decision which could have an effect on significant sites in areas where previous survey and evaluation have not been accomplished. Resource activities impacting known cultural resources will allow for evaluation and, where needed, mitigation of impacts prior to project implementation.

7- Cultural resource inventory will be conducted on National Forest lands proposed for exchange out of federal ownership.

8- For inventory purposes, a mix of intensive, systematic survey and intuitive survey will be conducted with actual coverage depending on such variables as slope, vegetation cover, and known or suspected sensitivity. For intensive, systematic survey, 30 meter intervals generally will be the maximum used although transect interval can be either shortened or widened depending on professional judgement. A professionally acceptable level of recordation of properties and a survey report are required.

9- Where appropriate, conduct thematic inventory and evaluation for known eligible or potentially eligible properties; e.g., structures of the Civilian Conservation Corps (CCC) era. As appropriate, the best examples will be nominated to the National Register and to the extent possible managed for preservation-in-place.

10- Evaluate all identified cultural resources for National Register eligibility. To achieve programmatic goals Forest-wide, priority will be given to sites with known National Register potential especially where degradation or other disturbance might endanger the integrity of the property.

11- At the project level, assessment will include effects of proposed undertakings, recommendations of feasible alternatives to protect cultural resource values, and input into EA/EIS documents.

12- Properties will be evaluated as to their potential to contribute data significant to the prehistory or history of the nation, state, or local area pursuant to 36 CFR 60 and direction in the State Historic Preservation Plan. At a minimum, the following criteria will be considered as appropriate:

A. Data relating to the Victorian settlement frontier, the mining frontier, ranching industry, industrial development, transportation and communication corridors, lumber industry, and ethnic populations.

B. Data pertaining to prehistoric occupation including cultural affiliation, chronology, adaptation, synchronic and diachronic variation, paleoenvironmental reconstruction, and depositional history.

C. Data of a local or regional nature as outlined in the Archeological Element of the State Historic Preservation Plan.

13- Nominate a minimum of five properties to the National Register over the 10-year planning period. This will be accomplished by nominating at least one property every two years.

14- As appropriate, avoidance, data recovery, or other mitigation practices will be implemented when significant cultural resources will be affected by project impacts. Avoidance may necessitate redesign of a project. Data recovery and mitigation plans will be in compliance with applicable laws, regulation, and supplementary Advisory Council guidelines.

15- Significant cultural resources will be protected from disturbance and deterioration from natural processes. All cultural resources will be protected from unauthorized disturbance and collection. An emphasis will be placed on protection measures such as signing, fencing, rehabilitation, stabilization, monitoring, law enforcement, and public information.

16- Coordinate enhancement and interpretation of cultural resources with visitor information services, Forest interpretive plans, and, where practical, developed recreation use.

17- Encourage academic research. Review, process, and administer Special Use Permits and other Cultural Resource Permits with maximum efficiency.

LANDS

1- Identify specific land ownership adjustment needs and priorities; and when possible, within local jurisdictions, meet their land management objectives such as ownership patterns, tax base, public ownership of hazard areas, etc. All lands are in one of the following groups:

   A. Group I - These are lands Congress has directly or indirectly instructed the Forest Service to retain ownership of or acquire through aquisition of nonfederal lands for a designated purpose. Creation of a wilderness is an example of the indirect approach. In most cases, the objective is to retain existing ownership and acquire remaining lands. Private lands within existing and proposed wildernesses should be acquired through land exchange, or purchase if land exchange negotiations cannot be consummated.

   B. Group II - These are lands needed for a special type of management and which have been allocated for that purpose. Examples of this are: key wildlife habitats, recreation lands, and special interest areas.

   C. Group III - The remaining lands are further divided into two subgroups.

      1. Consolidated National Forest Lands - These are generally solid blocks of National Forest System lands. These "blocks" will not normally be available for adjustments.

      2. Areas of mixed private and federal ownership. The objective is to rearrange ownership patterns to benefit both public and private interests and to acquire high priority lands for National Forest use.

2- Evaluate each land adjustment proposal using the following criteria to determine suitability and/or priority for adjustment.

   A. Meets habitat needs for wildlife species with emphasis on deer winter range.

   B. Meets the needs for developed recreation.

   C. Meets the needs for dispersed recreation.

   D. Protects or enhances wilderness values.

   E. Protects or enhances visual quality objectives.

   F. Improves management efficiency and administration by reducing common property boundaries and rights-of-way.

   G. Facilitates planning objectives of other federal, state, or local agencies and Indian tribes.

H. Meets the needs for providing quality water.

3- County planning agencies will have an opportunity to review those National Forest System lands that are identified for exchange.

4- Locate land line by survey and identify by posting and marking the true line between controlling property corners. Priority will be given to areas with high resource values and with high potential for encroachment.

5- Use of Nevada receipts allocation to acquire lands that meet land acquisition criteria will be emphasized in the Dog Valley and Carson front management areas.

6- Where appropriate, private landowners will be required to survey their property when adjacent to National Forest System lands.

TRANSPORTATION SYSTEM AND FACILITIES

1- Plan, develop, and operate the Forest Development Transportation System to provide user safety, convenience, and efficiency to accomplish land and resource management objectives. The basis for selection and application of elements and standards will be developed from the analysis criteria for each system road. Elements of the criteria are discussed in FSH 7709.11, Chapter 24.1.

2- Develop a "Forest Development Transportation Facility Schedule" by management area which will include individual area transportation analysis. The schedule will document long-term access needs for management of the Toiyabe. Existing transportation facilities not necessary for long-term access, as determined through the transportation analysis process, will be identified and reclaimed. Restoration of the land to resource productivity is required prior to removing a facility from the Forest Development Transportation System.

3- Develop a transportation analysis for the zone of influence associated with each proposed development project.

4- Roads constructed for site-specific resource activities will be:

A. Developed to a standard which minimizes resource impact.

B. Scheduled for reclamation unless specifically identified as long-term access needed for management of the Toiyabe.

5- Aggressively acquire rights-of-way to provide for public and administrative access.

6- Review and update the "Transportation Facilities Operations and Maintenance Schedule" annually to manage use in support of resource activities. This schedule will address all aspects of systems operations.

7- Maintain buildings, structures, and utility systems to protect capital investments. See Appendix A for a list of administrative sites. Maintenance will be paid by the benefitting resource unit unless it is a facility, administration, and operation (FA & O) site.

8- Maintain structures to at least the minimum standards for health and safety of the user by:

   A. Preserving, as practical, the original condition of buildings and related facilities owned by the Forest Service.

   B. Keeping facilities safe, sanitary, neat, and attractive (inside and outside) and in good working order.

   C. Reducing or eliminating the risk of interruption of service and support provided by the building.

   D. Preventing major unplanned repairs, and reconditioning or replacement costs.

9- Acquire all district office buildings and support complexes in fee.

10- Manage, monitor, and maintain all water and wastewater systems to preserve water quality, protect public health, and eliminate potential sources of pollution. Monitoring of potable water systems will be guided by the National Interim Primary Drinking Water Regulations and will include periodic testing for levels of chemical, physical, radiological, and microbiological contaminants.

LAW ENFORCEMENT

1- Law enforcement activities will emphasize prevention and public education.

2- Cooperative agreements with local law enforcement agencies will be continued and encouraged. The Forest Service will cooperate with local governments in search and rescue efforts. Destruction of Forest property and threats to users and Forest officers will receive priority for prosecution.

3- Provide improved protection to the public engaged in recreational activities. This will include patrol of recreation areas.

4- Prevent use of National Forest System land for cannabis cultivation and production.

5- During the fire season, intensify patrols in areas of high incendiary occurrence, especially in the mountains.

6- Work toward apprehending and bringing arsonists to trial.

7- Patrol areas where firewood theft is anticipated.

8- Improve protective devices at work centers, offices, and other Forest Service installations to discourage theft and vandalism.

9- Maintain contact with local law enforcement agencies for cooperative action.

10- Maintain a high visibility presence to deter violators.

11- Project a "Good Host" image.

MINERALS

1- Encourage exploration and development of mineral resources and minimizing possible adverse impacts to surface resources.

2- Require an operating plan on all mineral operations that will cause surface resource disturbance.

3- Process notices of intent (NOI) and operating plans (OP) in accordance with 36 CFR 228 and NEPA.

4- Require operating plans which minimize impacts to surface and cultural resources and provide for reclamation of disturbed areas.

5- Insure conformity with operating plans through regular compliance inspections.

6- Require reclamation bonds commensurate with the requirements of reclamation plans.

7- Require reclamation plans to achieve the repair of surface disturbances and to return the area and natural resource values to as near pre-existing conditions as possible.

8- The following "Access and Reclamation Measures" will be encouraged for mineral exploration Forest-wide and will be emphasized in areas where surface resource values are considered highly sensitive and where the physical character of the land, such as terrain and soil type, permit their use:

A. Close or obliterate access unless identified to become part of the transportation system after mineral activity is complete.

B. Minimize need for road construction through the use of specialized exploration equipment.

C. Develop access to a standard necessary to minimize resource impacts and to facilitate reclamation. Development standards and reclamation criteria will be subject to Forest engineering review when land disturbing activities are proposed in areas identified as having highly sensitive resource values.

D. Where new road and drill pad construction is essential for exploration access, such roads and other disturbed areas will generally be closed and stabilized by revegetation and recontouring where necessary to restore site productivity, to protect or restore visual quality, and to minimize resource conflicts.

E. Identify and save topsoil needed for reclamation prior to disturbance.

9- Input from county officials and others, as appropriate, will be considered before existing or proposed primary access roads are closed.

10- Validity examinations by qualified geologists will be conducted on a case-by-case basis to substantiate mineral patent applications and proper use of mining claims on the Forest.

11- Action will be taken on cases of abuse of mining laws, such as occupancy for purposes other than mining and mining related activities.

12- Informal mineral evaluations may be conducted by qualified geologists, mining engineers, or mineral specialists before operating plans are approved in primitive, semi-primitive nonmotorized, and environmentally sensitive areas as identified through the NEPA process. When such evaluation results in disagreement between the mineral operator and the Forest Service, the operator will have an opportunity to request the opinion of a consulting geologist.

13- Conduct validity exams on all operations proposed in wilderness. Validity exams may be conducted for development proposals in RNA's and proposed wildernesses.

14- Recommendations will be made to the Secretary of Interior concerning extension, removal, or modification of existing withdrawals.

15- Prepare mineral evaluations for proposed withdrawals and land exchanges.

16- Review and process all lease applications submitted by the BLM in a timely fashion. Specific stipulations are described in Table IV-7 and Appendix B of the Plan.

17- Provide counties with an opportunity to review geothermal lease applications to ensure that proper stipulations are included.

18- Except for mine sites where applicable, utilize existing borrow sites for common variety materials before new sites are developed.

19- Process requests for new common variety material sites through the NEPA process. Except for mine development where applicable, new sites will be developed on the Forest only when alternative sites off the Forest are not reasonably available.

20- Utilize the state permitting process for handling mineral dredging operations when applicable.

21- The Forest will work with industry to continue development of cost effective and environmentally sound reclamation procedures through research and experimentation.

22- The Forest will work with industry to further the development and use of drilling equipment, such as track-mounted drill rigs, that will result in effective exploration methods with the least impact on surface resources.

23- Reasonable access for mineral exploration, development, and production is guaranteed under the mining laws. The type of access approved will be consistent with the logical development of mineral properties.

24- The claimant/operator may be required to submit assay or other data, or identify mineral showings so that Forest Service mineral specialists can verify that the access proposed would be the next logical step in development.

TABLE IV-7 Mineral Lease Stipulations for Lands of the National Forest System Under Jurdisdiction Department of Agriculture

U.S. Forest Service Standard Stipulations	Recreation Special area	Steep Slopes Over 40%	Riparian	Key Wildlife Habitat	T & E Habitat	Administrative Site	Research Natural Area	Cultural Resources	Municipal Watershed	Visual Quality Retention or Partial retention Areas
1. No occupancy/disturbance for [rec./special area/etc.] *	X									
2. No facilities viewed from [road/lake/etc.]*										X
3. No surface occupancy	X		X		X	X	X		X	
4. No occupancy/disturbance within [__] feet of [rd./tr./creek/etc]			X	X						
5. No drilling/facilities within 200 feet of [live water/archaelogical/etc.] *			X	X				X		
6. No occupancy/disturbance, steep slopes		X								
7. Exploration/development allowed [specific time/over snow/etc.] *				X						
8. Prohibit exploration development for watershed damage									X	
9. Limits use of roads/trails	X					X				

TABLE IV-7 Mineral Lease Stipulations for Lands of the National (cont.) Forest System Under Jurdisdiction Department of Agriculture

U.S. Forest Service Standard Stipulations	Recreation Special area	Steep Slopes Over 40%	Riparian	Key Wildlife Habitat	T & E Habitat	Administrative Site	Research Natural Area	Cultural Resources	Municipal Watershed	Visual Quality Retention or Partial retention Areas
10.No occupancy/activity for [steep slope/ecosystem/etc.] *	X	X	X	X						
11.No [state activity] allowed because of [wildlife/improvement/etc.] *				X	X					
12.To protect [state activity] allow [type of activity] during [state time period] *				X						X
13.Controlled/limited surface use							X			
14.Activity coordination	X			X	X		X	X	X	X
15.Protect T&E species					X					

* To be completed when lease is issued.

Stipulations apply to leases to protect the indicated resource considerations unless it is determined through the NEPA process that a specific stipulation does not apply. Also if during NEPA process a stipulation is identified that is not included, then it may be included in the lease.

SPECIAL USES

1- New commercial permittees will be selected through a competitive process, if there is competitive interest.

2- Coordinate with appropriate state wildlife agencies when considering new outfitter-guide permits for hunting and fishing.

3- Consider public demand, capacity, and the capability of existing permitted outfitters to meet demand when considering applications for additional outfitting/guiding services.

4- Manage all utility, road, and transmission corridors in accordance with plans and permits issued for their construction and use. When applications for utility right-of-way are received, the first priority will be to utilize existing corridors.

5- An environmental analysis will be required prior to adding new facilities to existing corridors. The integrity of visual quality for the corridor will be maintained to the highest standard to minimize adverse resource and environmental impacts. Any new utility corridor not identified in this Plan will be handled through the NEPA process.

6- National Forest System land will not be available for uses that can be accomodated on private lands.

7- Manage electronic sites in accordance with site plans/permits.

8- Soil Conservation Service snow courses will be established and managed in accordance with "Memorandum of Agreement between U.S. Forest Service, Region 4, Odgen, Utah, and U.S. Soil Conservation Service in States of Idaho, Nevada, Utah, and Wyoming, on snow surveys" to protect the integrity of snow courses.

9- Applicants for electronic facilities will be directed toward use of the sites in the following order:

A. Utilize residual capacity of existing sites.

B. Utilize other sites following evaluation through an environmental analysis and preparation of a site plan.

10- Manage recreation-residence use on the Forest in accordance with a basic recreation policy which reflects the growing public need for National Forest resources. The following will be considered:

A. New recreation-residence tracts normally will not be approved. Past experience shows that potential tract areas are also suitable for development or administration of public recreation.

B. Recreation residences in established tracts will continue to be recognized as a valid use of National Forest land, unless and until it is determined that the land involved is needed for a higher priority public purpose; or that it should be vacated for some other, specific reason.

C. Where not already done, commitments to the selection of an in lieu lot will be made; unless it is appropriate to obligate unoccupied lots in established tracts. It may also be possible to lay out additional in lieu lots within the exterior boundary or adjacent to established tracts. Such action will not be considered as establishing a new tract. However, in these instances, analysis of future needs of the public should be projected through at least two term periods or 40 years.

D. Recreation-residence use will not be applied to commercial purposes.

E. Recreation-residence use will be administered in a manner to maintain or restore the forest environment.

F. All residential permits in a tract, and in logical groups of tracts, will be for the same term and will include the same termination date. Where this is not now the case, adjustments to achieve it will be made.

11- Studies will be made of all recreation-residence tracts or individual lots. Existing pertinent factors and future possibilities will be considered and appraised. One of the following conditions will be determined from such a study:

A. There is no evidence that public interest will be best served if the land remains in public ownership. Evidence in these cases must be conclusive. If disposal is indicated, then the possibility of an advantageous exchange will be thoroughly explored. If there is any evidence that, in the long run, public interest might be served best if the land remains in public ownership, then the decision will be for retention.

B. Public interest will be served best if the land remains in public ownership. In these cases, further review will be made to determine which of the following applies:

1. The lot is needed for a higher public purpose which can be forecast and for which a specific date of need can be determined. In these cases, the permittee will be notified, and the time factors and other elements of limited tenure will be thoroughly documented and explained. All decisions regarding future use of recreation-residence lots shall be documented.

2. The lot may continue to be used for recreation-residence purposes, subject to future periodic reevaluation.

12- Special use pastures or National Forest lands fenced in with private land will be managed as follows:

A. Special use pasture permits should be terminated wherever the pasture can be managed as an integral part of an existing grazing allotment, or as an independent and practical allotment. Grazing use will be authorized by a grazing permit and management specified in the allotment management plan in accordance with 36 CFR 231.1 and 232.2. Special use pasture permits may be continued where such use is the most logical way to manage the land.

B. A special use pasture will be considered as a land use, not a grazing use. Fees for pasture permits, as in other agricultural uses, will be based on rentals of comparable private land used for similar purposes.

C. Forest Service policy authorizes grazing with a grazing permit as described under regulations. Where a pasture permit has been issued to an individual who also holds a grazing permit, pasture use will be converted to the grazing permit.

13- Utility lines generally will be buried if necessary to meet visual quality objectives. Exceptions to underground utility lines will be allowed where technological, economic, or resource protection requirements indicate that such lines should be overhead.

14- Small hydro-projects (Federal Energy Regulatory Commission - FERC) will be managed as follows:

A. The Forest ID team will review proposed projects when notices of application for licensing are received from FERC.

B. Permit applications will be reviewed by appropriate county officials to ensure that their concerns are met.

C. Management concerns identified by the ID team will be resolved to the extent possible in the Environmental Assessment before approval of a special use permit.

D. Minimum instream flow required to maintain favorable water flows as outlined in the Organic Act, and to protect minimum viable trout populations, will be quantified by the Forest Service.

E. In addition to the above items, Forest Service input to the Environmental Assessment or Environmental Impact Statement will include consideration of cumulative effects of actions proposed in the Plan or for any hydro-power project.

AIR QUALITY

1- Cooperate with air quality regulatory agencies to prevent deterioration of air quality through emission concentrations that would produce measurable adverse effects on vegetation, wildlife, soil, water, and visual quality within the Class I Area (i.e., Hoover Wilderness).

2- Fire management will include compliance with an approved state air quality implementation plan.

3- All contracts and special use permits for activities that might impact air quality will include clauses that require the contractor or permittee to meet state(s) and county(ies) air quality standards.

RESEARCH NATURAL AREAS (RNAs)

1- Logging activities are not permitted.

2- Management practices, such as livestock grazing, control of excessive animal populations, or prescribed burning, may be authorized by the Station Director, Intermountain Forest and Range Experimental Station, with approval of the Forest Supervisor, when necessary to preserve the vegetation for which the area was created.

3- Public uses that contribute to modification of RNAs are to be discouraged or expressly prohibited. Initiate special closures to protect areas from actual or potential harm resulting from public uses. Closures are to be implemented under provisions of 36 CFR 261.50.

4- Physical improvement such as roads, fences, or buildings will not be permitted within RNAs unless temporarily needed to fulfill scientific potential.

5- RNAs are to be protected from fires, insects, diseases, and animals that are not a part of the natural processes of the area. Wildfires occurring within RNAs will be allowed to burn undisturbed, unless they threaten persons or property outside the area. Debris resulting from fires should not be cleaned up nor should any fire hazard reduction or reforestation be undertaken. No action is to be taken against endemic insects, diseases, or wild animals.

6- A special use permit or cooperative agreement will be prepared to cover planned research activities.

7- Permits for collection of endangered or threatened plants are to be issued by the US Fish and Wildlife Service (50 CFR 17.22). Permits for collection of sensitive plants are to be issued by the Forest Service.

8- Where RNAs occur within a wilderness, the most restrictive guidelines will apply.

9- RNAs should be withdrawn from mineral entry after establishment in accordance with Section 204 of the Federal Land Policy and Management Act of 1976 (PL 94-579).

10- A suitable substitute in the pinyon/juniper ecosystem will be nominated to replace the Sweetwater RNA.

11- A validity examination will be conducted for all mineral operations proposed in RNAs not withdrawn from mineral entry.

TABLE IV-8 Annual Yields, Activities and Cost Description

Table IV-8 displays the objectives that will be met when the Plan is implemented. The outputs are displayed for a fifty year period, with each period, unless stated elsewhere, and average annual output that is output for period/years in period display = table display. To determine an output for total period, take value in the table and multiply it by the number of years in the table. The first period is based on five years, not 10, so some outputs have been adjusted to show the correct period total (i.e. facilities - trail construction/reconstruction - first period output):

10.0 miles per year X 5 years in first display
period (1986 - 1990) = 50 miles for that period.

The following codes have been developed for table IV-8:

1. Annual average - calculated by taking total output for periods/years in period display.
2. Are totals for that period, not averages. The are not totaled across all periods to get 50 years. The fifty year total is the last column. This pertains to new wilderness areas, recreation opportunity spectrum, and visual quality.

To get a fifty year total for any output coded (1), the annual average outputs for each period would be converted into total period output, then totaled.

Example: Facilities - trail construction/reconstruction:

10.0 miles per year X 5 years in first period
(1986 - 1990) = 50

5.0 miles per year X 10 years in second period
(1991 - 2000) = 50

0 miles per year X 10 years in third period
(2001 - 2010) = 0

0 miles per year X 10 years in fourth period
(2011 - 2020) = 0

0 miles per year X 10 years in fifth period
(2021 - 2030) = 0

100 miles

TABLE IV-8 ANNUAL YIELDS, ACTIVITIES, COSTS AND BENEFITS (AVERAGE ANNUAL VALUES AND UNDISCOUNTED 1978 DOLLARS)

Program Element and Activity		Unit of Measure	1986 1990	1991 2000	2001 2010	2011 2020	2021 2030
RECREATION							
Developed Recreation Use	1	Thousand RVDs	1096.0	1125.0	1171.0	1246.0	1315.0
Dispersed Recreation Use	1	Thousand RVDs	1704.6	1956.8	2235.1	2235.1	2235.1
Wilderness Use	1	Thousand RVDs	683.5	728.3	772.2	772.2	772.2
Trail Const./Reconst.	1	Miles	10.0	5.0	0	0	0
WILDERNESS							
New Wilderness acres	2	Thousand Acres	261.5	261.5	261.5	261.5	261.5
RECREATIONAL OPPORTUNITY SPECTRUM							
Primitive	2	Thousand Acres	147.4	147.4	147.4	147.4	147.4
Semi-primitive nonmotorized	2		1409.1	1409.1	1409.1	1409.1	1409.1
Semi-primitive motorized	2		1056.1	1056.1	1056.1	1056.1	1056.1
Roaded natural	2		536.3	536.3	536.3	536.3	536.3
Rural	2		21.3	21.3	21.3	21.3	21.3
VISUAL QUALITY							
Preservation	2	Thousand Acres	396.6	396.6	396.6	396.6	396.6
Retention	2		435.3	435.3	433.1	430.9	438.0
Partial Retention	2		1086.5	1086.5	1066.7	1046.8	1022.4
Modification	2		1031.9	1031.9	1051.7	1071.6	1096.7
Max Modification	2		221.4	221.4	223.6	225.8	228.0
WILDLIFE AND FISHERIES							
Wildlife Habitat Improvement	1	Thousand Acres	2.7	2.7	2.7	2.7	2.7
Management Indicator Species							
Goshawk	2	Breeding Pairs	66.0	66.0	66.0	66.0	66.0
Pine marten	2	Thousand Animals	85.0	95.0	95.0	95.0	95.0
Paiute cutthroat trout	2	Fish/Stream/Mile	230.0	380.0	500.0	500.0	500.0
Lahontan cutthroat trout	2	Fish/Stream/Mile	200.0	380.0	500.0	500.0	500.0
Williamson's sapsucker	2	Thousand Animals	3.4	3.4	3.4	3.4	3.5
Hairy woodpecker	2	Thousand Animals	5.0	5.0	5.0	5.0	5.0
Mule deer	2	Thousand Animals	29.0	32.5	33.6	33.6	33.6
Sage grouse	2	Thousand Animals	17.3	20.0	23.0	25.0	27.0
Yellow warbler	2	Thousand Animals	6.0	5.6	5.6	5.6	5.6
Palmer's chipmunk	2	Thousand Animals	6.6	6.6	6.6	6.6	6.6
Yellow-bellied sapsucker	2	Thousand Animals	1.5	1.5	1.5	1.5	1.5
Macroinvertebrates (BCI)			75. 0	77.0	78.0	78.0	78.0
Dispersed Wildlife Use							
General Forest Area	1	Thousand of WFUDs	403.1	495.3	562.2	562.2	562.2
Wilderness	1	Thousand of WFUDs	98.5	99.4	99.7	99.7	99.7
Improvement	1	Thousand of WFUDs	15.1	15.1	15.1	15.1	15.1

1/ Average Annual Value
2/ Total Value by Period

TABLE IV-8 ANNUAL YIELDS, ACTIVITIES, COSTS AND BENEFITS (AVERAGE ANNUAL VALUES AND UNDISCOUNTED 1978 DOLLARS)

Program Element and Activity	Unit of Measure	1986 1990	1991 2000	2001 2010	2011 2020	2021 2030
RANGE						
Domestic Livestock (Capacity)	1 Thousand AUMs	99.2	102.7	103.4	103.4	103.4
Domestic Livestock (Permitted Use)	1 Thousand AUMs	98.0	98.1	99.0	99.0	99.0
Wild Horses (Permitted Use)	1 Thousand AUMs	5.1	5.1	5.1	5.1	5.1
TIMBER						
Program Sales Offered	1 Thousand CF	693.0	693.0	693.0	693.0	693.0
	1 Millions BF	4.5	4.5	4.5	4.5	4.5
Reforestation	1 Thousand Acres	.120	.120	.075	.061	.052
Timber Stand Improvement	1 Thousand Acres	.270	.270	.089	.089	.089
Fuelwood	1 Thousand CF	587.0	587.0	587.0	587.0	587.0
	1 Thousand Cords	6.5	6.5	6.5	6.5	6.5
WATER						
Meeting Water Quality STANDARDS	1 Thousand Ac-ft	932.0	932.0	932.0	932.0	932.0
PROTECTION						
Fuel breaks and Fuel Treatment	1 Thousand Acres	1.5	1.2	1.2	1.2	1.2
Prescribed burning for Range	1 Thousand Acres	.5	.5	.5	.5	.5
Prescribed burning for Wildlife	1 Thousand Acres	1.1	1.1	1.1	1.1	1.1
MINERALS						
Leases	1 Number of Leases	65.0	65.0	65.0	65.0	65.0
Operating Plans	1 Number of Plans	256.0	256.0	256.0	256.0	256.0
Acres Reclaimed	1 Thousand Acres	.9	.9	.9	.9	.9
Acres Disturbed	1 Thousand Acres	1.3	1.3	1.3	1.3	1.3
HC&D						
Human Resources Program	1 Person years	108.0	108.0	108.0	108.0	108.0
LANDS						
Land Purchase & Acquisition & Exchange	1 Acres	700.0	700.0	700.0	700.0	700.0
Property Boundary Lines						
Location	1 Miles	11.0	8.0	8.0	8.0	8.0
Maintenance	1 Miles	0.0	2.6	2.6	2.7	2.6

1/ Average Annual Value

TABLE IV-8 ANNUAL YIELDS, ACTIVITIES, COSTS AND BENEFITS (AVERAGE ANNUAL VALUE AND UNDISCOUNTED 1978 DOLLARS)

Program Element and Activity	Unit of Measure	1986 1990	1991 2000	2001 2010	2011 2020	2021 2030
SOILS						
Soil and water improvement acres	1 Acres	33.5	33.5	33.5	33.5	33.5
FACILITIES						
Arterial/Collector Road Construction	1 Miles	.7	.8	.9	1.1	.9
Arterial/Collector Road Reconst.	1 Miles	5.7	3.8	5.0	4.9	5.0
Timber Purch. Road Construction	1 Miles	2.5	1.3	1.2	1.5	1.1
Timber Purch. Road Reconstruction	1 Miles	3.2	3.2	4.9	4.2	5.1
	THOUSAND DOLLARS					
BENEFITS M$						
Recreation						
Developed	1	3288.0	3374.0	3512.0	3738.0	3945.0
Dispersed	1	5554.0	6471.0	7466.0	7466.0	7466.0
Wilderness	1	4856.0	5179.0	5503.0	5503.0	5503.0
Range	1	1240.0	1278.0	1287.0	1287.0	1287.0
Timber	1	257.0	257.8	255.9	256.3	242.2
Other Timber 3/	1	89.0	89.0	89.0	89.0	89.0
Wildlife (WFUDs)	1	10557.0	12068.0	12865.0	13682.0	14112.0
	THOUSAND DOLLARS					
COSTS M$						
Total Forest Budget		6005.0	6004.8	6098.7	6030.0	6117.6
Protection	1	967.0	967.0	967.0	967.0	967.0
General Administration	1	782.0	782.0	782.0	782.0	782.0
Total Roads	1	562.0	560.5	569.2	572.6	561.7
App. Fund Roads	1	496.0	492.6	502.5	505.3	494.8
Purchaser Credit Roads	1	66.0	67.9	66.7	67.3	66.9
Non-Forest Service Costs (exc. roads)		462.0	423.9	423.9	423.9	423.9
Recreation						
Developed Construction	1	246.3	138.2	124.7	103.3	133.6
Developed Reconstruction	1	138.5	24.7	13.7	0	0
Dispersed Trail Head	1	6.1	9.6	16.5	0	0
Dispersed Trails	1	14.2	13.6	4.9	0	0
Returns To Treasury		483.0	487.0	493.0	504.0	502.0

1/ Average Annual Value
3/ Includes Christmas trees, pinyon nuts, post & poles, and fuelwood
Note: Timber outputs remain constant from the fifth to the twentieth period

INTRODUCTION TO THE MANAGEMENT AREAS OF THE FOREST

The following sections contain management area description, the management direction and activities, and specific standards and guidelines that apply to each area. Standards and guidelines which apply to all management areas were discussed previously under "Forest-wide Standards and Guidelines."

The Toiyabe was divided into 12 management areas to facilitate implementation of the Forest Plan. Each management area is composed of contiguous lands with similar topography, geology, and land and resource uses. One management area includes the three formally classified wildernesses on the Forest. While all will be managed under the principles of multiple-use, different resources will be emphasized in different areas. For example, Dog Valley Management Area will emphasize timber products, while the Carson Front Management Area will emphasize dispersed recreation, wildlife, and watershed values. The write-up for each management area includes the following:

1. A location map.
2. The management area number and acreage.
3. A description of the physical characteristics and significant resource situation or uses.
4. The total management area direction and prescription.
5. The proposed (first 10 years) and probable (second 10 years) practices, the Management Information Handbook (MIH) codes, management direction, and activities, and specific standards and guidelines.

Management areas, listed by number, name, and acres follow:

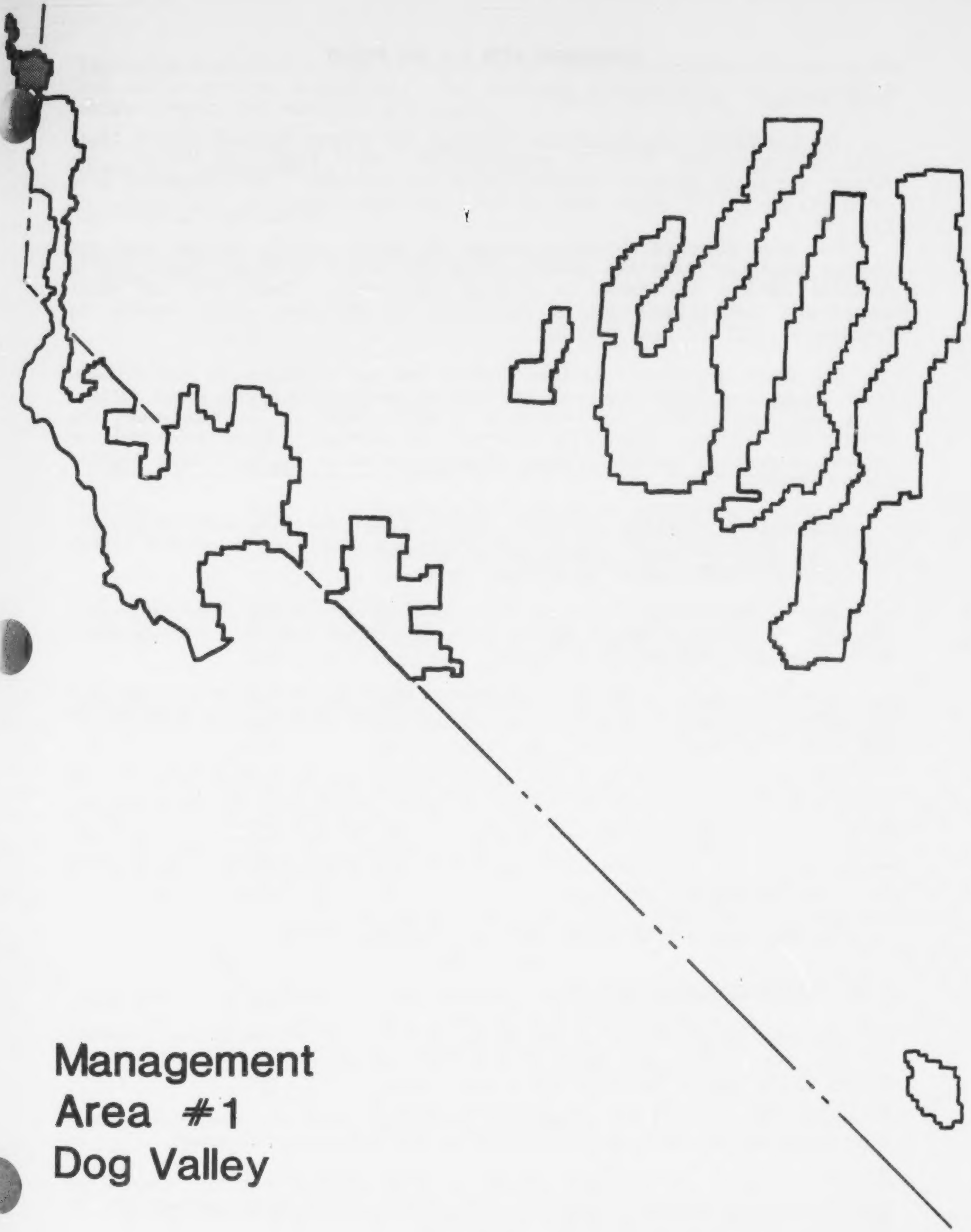
Area Number	Name	Acres
1	Dog Valley	25,000
2	Carson Front	90,200
3	Alpine	114,600
4	Walker	203,700
5	Existing Wilderness	135,100
6	Bridgeport Pinyon/ Juniper	605,4003
7	Paradise-Shoshone	267,800
8	Toiyabe	541,000
9	Toquima	535,400
10	Monitor	701,200
11	Mount Charleston Developed Canyons and Dispersed Area	15,500
12	Mount Charleston Recommended Wilderness	42,500

WILDERNESS RECOMMENDATION

Areas recommended for wilderness are preliminary administrative recommendations which will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. Final decisions on wilderness designation have been reserved by Congress.

The Carson-Iceberg Roadless Area is contiguous to a roadless area on the Stanislaus National Forest. The Stanislaus is the lead Forest in the evaluation for wilderness for the Carson-Iceberg Planning Area.

The California Wilderness Act of 1984 required the Secretary of Agriculture to submit a report to Congress within three years of effective dates of the law as to the suitability for preservation as wilderness for the Carson-Iceberg Planning Area and the Hoover Wilderness Addition Planning Area. Subject to valid existing rights, these two planning areas shall be managed to maintain their currently existing wilderness character and potential for inclusion in the National Wilderness Preservation System for at least four years from the date of enactment. The final recommendation for the two planning areas is shown in management areas 3 and 4, and Appendix C.



Management
Area #1
Dog Valley

MANAGEMENT AREA 1 - DOG VALLEY

Total acreage: 25,000 net acres

The Dog Valley Management Area contains all Toiyabe National Forest lands north of the Truckee River or Interstate 80. Verdi Ridge, Dog Valley, Long Valley, and areas north to Roberts Canyon are included. The management area is approximately 15 miles west of Reno and accessible via I-80 and/or US 395.

The area supports extensive stands of second growth Jeffrey pine and logging has taken place continuously since the 1870s. In recent years, public fuelwood harvest has taken on greater importance. There are two small campgrounds but primary public recreation is day use, often related to fuelwood harvest and deer hunting.

Dog Creek provides a limited fishery and is tributary to the Truckee River which is a major source of the Truckee Meadows Municipal Water System. There has been interest in developing a small reservoir to supplement the Truckee Meadows water supply. A reservoir for storage of water essential for Truckee Meadows is currently under feasibility study by the Sierra Pacific Power Company.

Dog Valley provides important winter range for the Loyalton-Truckee interstate deer herd. The gentle topography and stable soils enhance timber and forage management opportunities.

Dog Valley includes a special area, the proposed Babbitt Peak RNA. This RNA includes a pure stand of Washoe pine, California red fir, western white pine, white fir, and Jeffrey pine.

Fire protection is taking on a greater emphasis because of private land development adjacent to the area. Active fuelwood cutting also adds to the need for increased protection.

Dog Valley is on the western boundary of the Peavine Mining District. No historic mineral production is known from Forest lands; however, gold, silver, copper, and lead were mined just to the east towards Peavine Peak. A zone of hydrothermal alteration in Tertiary volcanics as well as Jurassic metasediments and metavolcanics between Dog Valley and Peavine Peak accounts for the mineralization there.

Acreage suitable for timber production: 14,133 acres.

TOTAL MANAGEMENT AREA DIRECTION

Key resources to emphasize in Dog Valley are the protection of soil, water, and wildlife values, particularly mule deer winter range, and day-use and dispersed recreation opportunities.

Intensive National Forest management activities will be demonstrated and interpreted to increase public awareness of National Forest programs.

Recreation will be managed primarily for roaded natural recreation opportunities. Informal campsites and hunter camps will be managed as important components of dispersed recreation.

Vegetation manipulation will be conducted to assist in meeting fire protection and multi-resource objectives. The fuelwood program will be utilized to improve vegetative condition and vigor.

Vacant range allotments will be evaluated for future management. Noxious farm weeds will be controlled.

Management Prescription

Moderate Timber, Range and Intensive Deer Winter Range Management	-- 25,000 acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 1

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A01 A03 A04	(A)	Evaluate for nomination and interpretation the Donner Party Trail and related emigrant routes. Develop a management plan to protect and/or interpret those areas deemed significant.
CULTURAL RESOURCES	A02 A03 A04	(A)	Inventory and evaluate known historical sawmills, logging camps, and related features and systems. Nominate, protect, or interpret as necessary.
DEVELOPED RECREATION	A01 A06 A07	(D)	Require proponent of future reservoir, if approved and constructed, to install developed recreation facilities to meet projected flat-water recreational demand. Consider land exchange as potential mitigation for reservoir construction.
RECREATION	A07	(A)	Maintain Lookout Campground and manage as a fee site.
WILDLIFE	C01	(D)	Key deer winter range and the Dog Valley - Long Valley road will be closed to all motorized vehicles during periods of the year when deer are on winter range.
WILDLIFE	C01	(D)	Give priority to protecting deer winter range during all Forest Service activities.
WILDLIFE	C01 C02	(D)	Give priority to rehabilitate key deer winter range damaged by fire if these areas do not recover naturally in a reasonable amount of time, and if feasible.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 1

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
WILDLIFE	C02 C03	(D)	Wildlife habitat improvement projects will emphasize improvement of deer winter range. Grazing management will enhance fisheries.
RANGE	D01	(A)	Complete one revision and three initial range allotment plans.
RANGE	D05	(A)	Complete 17 new structural range improvements.
RANGE	D07	(A)	Administer and manage four grazing allotments.
RANGE	D12	(A)	Cooperate with the state of California to treat two acres of noxious weeds.
TIMBER	E00	(D)	Manage timber stands to maintain vigor, control insects and disease, maintain aesthetics, and reduce fire hazard.
TIMBER	E03	(D)	Vegetative management prescription will consider visual quality, wildlife, and site productivity and economics as important factors.
TIMBER	E04	(A)	Provide reforestation as needed to carry out stand silvicultural prescriptions.
TIMBER	E05	(A)	Perform timber stand improvement as needed to carry out stand silvicultural prescriptions.
TIMBER	E06	(D)	High-risk old growth and overstocked intermediate Jeffrey pine stands are highest priority for harvest. See Forest-wide standards for specific timber management activities.
TIMBER	E33	(D)	Provide research and cooperative management opportunities with the University of Nevada, Reno. Emphasize identification of vegetative responses to manipulation as a research project.
WATER & SOIL	F08	(A)	Maintain existing erosion control structures in Dog Creek.
MINERALS	G01	(D)	Approve no new nonenergy mineral leases on acquired land not subject to location.
MINERALS	G01	(A)	Rehabilitate the Crystal Peak Mine and access road.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 1

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
MINERALS	G05	(D)	Standard #8 under Forest-wide mineral standards and guidelines will be emphasized in areas identified as having highly sensitive resource values. See Forest Plan maps.
RESEARCH		(A)	Establish and protect the Babbitt Peak RNA in cooperation with the Tahoe National Forest. Withdraw the area from mineral entry.
SPECIAL USES	J01	(D)	Do not issue outfitter-guide permits in Dog Valley.
LANDS		(D)	Cooperate with Pacific Southwest Region in analyzing the location of the proposed trans-Sierra powerline.
LANDS	J11	(D)	Coordinate with adjacent National Forests and state and local agencies to enhance the resource management opportunities in this area.
LANDS	J18	(D)	Manage the gas line right-of-way in Dog Valley to minimize soil erosion and to enhance visual qualities.
LANDS	J18	(A)	Acquire public access to Roberts Canyon - Evans Canyon area.
FACILITIES	L01	(A)	Complete "Forest Development Transportation Facility Schedule."
FACILITIES	L01	(D)	Coordinate with the Tahoe National Forest and Sierra and Washoe counties to improve the Dog Valley - Henness Pass Forest Highway.
FACILITIES	L09	(A)	Reconstruct 9.2 miles of collector roads.
FACILITIES	L12	(A)	Construct 1.3 miles of local roads.
FACILITIES	L13	(A)	Reconstruct 3.1 miles of local roads.
FACILITIES	L24	(A)	Replace the existing Dog Valley Guard Station with a new administrative site; the new site location to be determined.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 1

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
PROTECTION	P01	(D)	Coordinate and cooperate closely with the Nevada Division of Forestry, California Department of Forestry, BLM, Tahoe National Forest, and Truckee Meadows Fire Protection District.
PROTECTION	P01	(A)	Implement the Sierra Front Initiative; See "Fire Management Action Plan" in Chapter V for detailed program work.
PROTECTION	P01 P12	(D)	Emphasize vegetation management and activity fuels treatment to reduce fire hazard both to private land develoment within and adjacent to the National Forest.
PROTECTION	P02	(A)	Complete Dog Valley, Verdi-Peavine, and Truckee River pre-attack schedules with emphasis on hazard/risk assessment and identification of vegetative management needs.
PROTECTION		(D)	All wildfires will be contained or controlled.

PROBABLE ACTIVITIES FOR THE SECOND DECADE

TIMBER	E04	(A)	Reforestation.
TIMBER	E05	(A)	Timber stand improvement.
FACILITIES	L12	(A)	Construct one mile of local road.
FACILITIES	L13	(A)	Reconstruct 3.5 miles of local roads.

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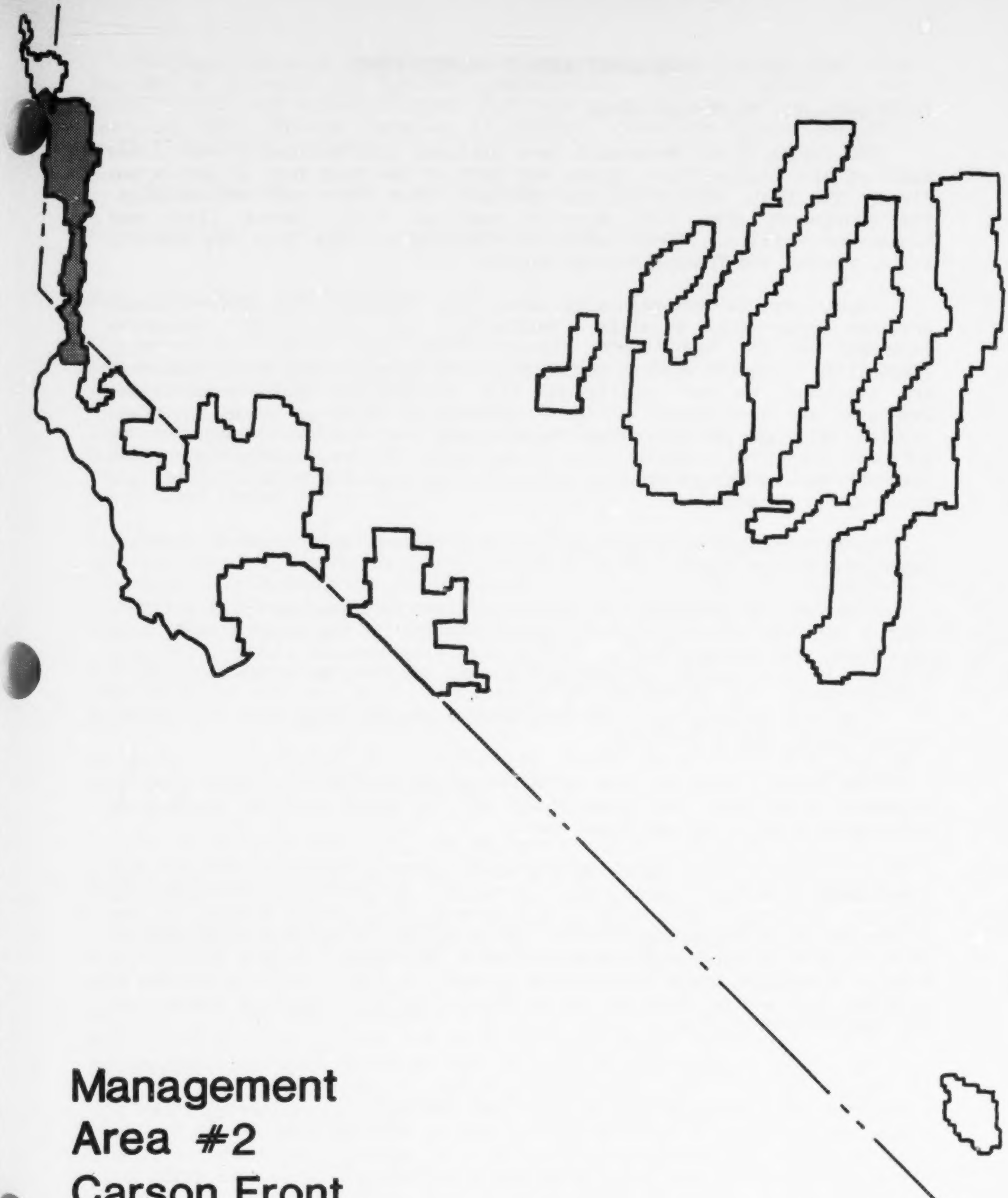
* For quantified activities, see Chapter V, Action Plans by Resource.



Management Area #2 Carson Front

MANAGEMENT AREA 2 - CARSON FRONT

Total acreage: 90,200 net acres

The Carson Front Management Area includes all National Forest lands south of the Truckee River Canyon and north of the West Fork of the Carson River. The lands that drain into the Lake Tahoe Basin are not included. The management area lies directly west of Reno, Carson City, and Minden-Gardnerville. These lands are directly visible from the Carson, Eagle, Washoe, and Truckee Meadows valleys.

Topography is exceptionally steep and rugged. The Carson front provides watershed, wildlife, aesthetic, and recreational resources important to the Reno, Verdi, Carson City, Lake Tahoe, and foothill communities along the eastern Sierra slope and Carson front. These resources are important to the quality of life offered by these communities. Expansion and development of these communities cause an urban interface problem of high density, high value lands and structures adjacent to National Forest wildlands. Fire protection, ORV use, encroachment, and adverse resource damage pose the greatest challenge for Forest Service and other agency managers.

Three municipal watersheds are located in this area; Truckee Meadows, Genoa, and Carson City.

Although the land supports stands of Jeffrey pine and mixed conifer, logging has been limited in recent years because of the steep slopes, lack of access, and unstable soils. There have been several timber sales over the past 10 to 15 years, but firewood harvest has been the major activity.

Livestock grazing has been limited to suitable range near Mount Rose, Little Valley, and Clear Creek.

The Carson front is heavily affected by special land uses such as highways, pipelines, and powerlines, all of which provide service to development within the Lake Tahoe Basin.

Fire protection is taking on a greater emphasis because of private land development adjacent to and within the Forest. Private land development at the toe of slopes is unusually susceptible to wildfire because of the phenomenon of strong downslope winds which cause fire to burn downslope, in many cases more hazardously than upslope. The unique weather pattern of erratic downslope winds contributes greatly to an increased threat of wildland fire moving from the Carson front down into foothill communities and housing developments.

Resort development in Galena Creek will greatly affect the management of Forest lands. Land ownership patterns are mixed and add to the complexity of management. Damage from ORV use is occurring due to indiscriminate use of private lands, and on the National Forest. Some section corner monumentation is unreliable or missing, and boundary lines are deficient. Trespass and encroachments by adjacent landowners exist and a high potential exists for future unauthorized uses.

A major facility (originally the Job Corps Center) exists at Clear Creek near Carson City.

Geologic terranes include metasediments and metavolcanics that were intruded by Mesozoic and Tertiary granodiorites. Historic mining in the Genoa, Galena, and Voltaire/Ivanhoe districts produced gold, silver, copper, lead, and zinc. However there are no complete production figures and there is little current activity.

This area includes the proposed Mount Rose Wilderness.

Acreage suitable for timber production: 15,522 acres

TOTAL MANAGEMENT AREA DIRECTION

Key resource values in the Carson front are watershed, wildlife, visuals, and dispersed recreation. Management emphasis is to protect key resource values and property from wildfire.

Coordination with federal, state, and local governments will accomplish mutual recreation, wildlife, and watershed objectives. The role of the Forest will be to emphasize dispersed recreation while other agencies and the private sector will provide developed site opportunities.

The Carson front will be managed to provide a diversity of recreational opportunities. Intensive management emphasis on National Forest lands along the Mount Rose Highway and US 50 corridors will be conducted. Management emphasis will provide roaded natural experiences along major corridors and semi-primitive motorized and nonmotorized experiences in other areas.

Vegetation manipulation will be conducted to enhance soil, water, wildlife, and aesthetic values, and to minimize the potential for catastrophic wildfire, and insect and disease infestation.

Concepts in the Sierra Fire Protection Initiative will be utilized to minimize the potential for adverse effects of wildfire on property and resources.

A newly established window will be managed for utilities north and south of Kingsbury (Dagget Pass) from the Myers-Buckeye line north to the Buckeye-Round Hill line.

Existing transportation and utility corridors will be utilized if new uses are proposed and all corridors will be managed to maintain high visual quality.

Cooperation with the California Department of Fish and Game, the Nevada Department of Wildlife, and the US Fish and Wildlife Service will provide for management of habitat for the Lahontan cutthroat trout.

The proposed Mount Rose Wilderness will be managed to meet objectives and intent of the Wilderness Act.

Management Prescriptions

Wilderness	-- 16,000 acres
Intensive Wildlife and Dispersed Recreation	-- 74,200 acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 2

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A02 A03	(A)	Complete inventory and evaluation of historical logging camps and water systems, particularly as they relate to Comstock and Chinese occupation. Consider district nomination if appropriate.
CULTURAL RESOURCES	A04	(D)	Conduct management activities to protect the setting of Genoa, a National Register District, and the first Nevada settlement.
RECREATION	A07	(D)	Manage the Mount Rose Campground as a fee site.
RECREATION	A08	(D)	Manage the following nonmotorized management units to meet long-term, nonmotorized recreation objectives; but, where applicable, allow for designated routes, snowmobiles, existing contracts, minerals, protection, and other valid activities conducted on a short-term or seasonal basis with the intent of closing and/or rehabilitating roads upon activity completion: Hunter Creek, Mount Rose, Genoa Peak, and Jobs Peak. See Forest Plan Maps.
RECREATION	A08	(A)	Evaluate where ORV damage is occurring and restrict use on affected National Forest System lands.
RECREATION	A08	(A)	Rehabilitate areas to restore original resource values where ORV use has adversely affected resources.
RECREATION	A08	(D)	Allow outfitter-guide permits for nonhunting uses. Permit helicopter ski operations based on recreational demand.
RECREATION	A08	(D)	Issue no commercial outfitter-guide permits for the Tahoe Meadows area.

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* For quantified activities, see Chapter V, Action Plan by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 2

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A06 A08	(D)	Manage Tahoe Meadows to accommodate snowmobiling, cross-country skiing, and general snowplay by segregating conflicting recreational uses on the Meadows. Construct a trailhead and off-highway parking suitable for both summer and winter use; coordinate development with state and local agencies and private land owners by 1995.
RECREATION	A06 A10	(A)	Coordinate with the Galena Resort to construct a trailhead to access Mount Rose. Provide loop opportunities from the Carson front, if possible, by 1990.
RECREATION	A10 A11	(A)	Construct five miles of trail in Whites Creek and reconstruct one mile of trail in Thomas Creek by 1987.
RECREATION	A11	(A)	Coordinate with Tahoe Rim Trail volunteer project. Provide connector trails to existing trails and proposed trails to Reno by 1995.
RECREATION	A12	(A)	Improve foot and horse trail system in Hunter and White Creek areas. Emphasize loop opportunities and connector trails to other trails managed by other federal, state, or county agencies by 1992.
RECREATION	A14	(D)	Maintain a visual quality objective of retention along the Mount Rose, US 50, and Kingsbury highways, and Highway 206 (Foothill Road).
RECREATION	A14	(D)	Manage the "seen" area as viewed from US 395 and other major highways along the Sierra as partial retention.
WILDLIFE	C01	(A)	Provide for reintroduction of Lahontan cutthroat trout in Franktown, West Gray, Deep Bronco, Jacks Valley, and Kings Canyon creeks.
WILDLIFE	C01	(D)	Give priority to protecting mule deer winter range during all activities.
WILDLIFE	C01 C02 C03	(D)	Wildlife habitat improvement projects will emphasize improvement of deer winter range.
WILDLIFE	C02 C03	(D)	Emphasize maintenance and improvement of wildlife habitat and fisheries.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 2

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RANGE	D01	(A)	Complete four initial range allotment plans and update two allotment plans.
RANGE	D02	(A)	Complete 35,650 acres of initial analysis and 2,500 acres of updated analysis.
RANGE	D02	(A)	Conduct range analysis on newly-acquired lands and evaluate for livestock use.
RANGE	D05	(A)	Complete 11 new structural range improvements.
RANGE	D07	(A)	Administer and manage six grazing allotments.
TIMBER	E03 E07	(D)	Manage vegetation to protect and enhance watershed and visual quality. Maximize public fuelwood programs in salvage, thinnings, and slash disposal activities. See Forest-wide standards for specific standards.
TIMBER	E04	(A)	Conduct reforestation as needed to carry out stand silvicultural prescriptions.
TIMBER	E05	(A)	Conduct timber stand improvement as needed to carry out stand silvicultural prescriptions.
WATER & SOIL	F02	(D)	Manage the Carson City municipal watershed in Kings and Ash Canyon to provide quality water.
WATER & SOIL	F03	(A)	Complete five acres of watershed improvement.
WATER & SOIL	F03	(D)	Cooperate with the Nevada Department of Wildlife and the University of Nevada to improve ecological condition of Little Valley Meadows.
WATER & SOIL	F10	(D)	Cooperate with federal, state, and local agencies in informing landowners of potential floodplain hazards presented along the Carson front. Encourage local authorities to monitor, zone, or restrict development in hazard prone areas.
WATER & SOIL	F07	(A)	Process eight claims for water rights.
MINERALS	G05	(D)	Standard #8 under Forest-wide minerals standards and guidelines will be emphasized in areas identified as having highly sensitive resource values; e.g., Hunter Creek, Mount Rose, Genoa Peak, and Jobs Peak. See Forest Plan maps.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 2

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
MINERALS	G01	(D)	Recommend denial of new nonenergy mineral leases on acquired land not subject to location.
SPECIAL USES	J01	(D)	Expansion of existing ski areas on or adjacent to Forest lands will be subject to approved master plans.
LANDS	J05	(A)	Consolidate ownership on the Carson Range.
LANDS	J06	(A)	Post property boundaries where control or monumentation is established.
LANDS	J10	(A)	Inventory potential and existing trespass and encroachments on National Forest lands.
LANDS	J11	(D)	Cooperate with Pacific Southwest Region in analyzing location of the proposed trans-Sierra powerline from Sacramento to Carson Valley.
LANDS	J18	(A)	Strive to acquire private lands that meet Forest-wide land acquisition criteria.
LANDS	J18	(A)	Acquire public access to the Carson front.
PLANNING	J22	(D)	Expansion of Galena Resort onto Forest lands will be reviewed through the NEPA process, in accordance with the approved Washoe County Plan.
FACILITIES	L01	(A)	Complete "Forest Development Transportation Facility Schedule."
FACILITIES	L01	(A)	Cooperate with the Nevada Department of Transportation and the Federal Highway Administration in improving the Mount Rose and Kingsbury highways to meet National Forest and state/local needs.
FACILITIES	L05	(A)	Reconstruct 7.3 miles of arterial roads.
FACILITIES	L12	(A)	Construct 5.2 miles of local roads.
FACILITIES	L13	(A)	Reconstruct 11.1 miles of local roads.
FACILITIES	L25	(A)	Clear Creek Job Corps Center will be transferred by deed to the state.

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* For quantified activities, see Chapter V, Action Plan by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 2

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
FACILITIES	L42	(D)	Manage the Slide Mountain electronic and other approved sites according to site plans and established rules for their management.
PROTECTION	P01	(D)	Coordinate and cooperate closely with the Nevada Division of Forestry, BLM, Lake Tahoe Basin Management Unit, and local fire departments in suppressing wildfires.
PROTECTION	P01	(A)	Implement the Sierra Front Initiative. See "Fire Management Action Plan" for detailed program work in Chapter V.
PROTECTION	P11 P12	(D)	Emphasize vegetation management and activity fuel treatment to reduce fire hazard to private land development within and adjacent to the National Forest.
PROTECTION	P02	(A)	Complete pre-attack schedule for Mount Rose, Reno Front, Galena, Carson, and Genoa with emphasis on hazard/risk assessment and identified vegetative management needs.
PROTECTION		(D)	All wildfires will be contained or controlled.

PROBABLE ACTIVITIES FOR THE SECOND DECADE

TIMBER	E04	(A)	Reforestation.
TIMBER	E05	(A)	Timber stand improvement.
FACILITIES	L12	(A)	Construct five miles of local roads.
FACILITIES	L13	(A)	Reconstruct 8.3 miles of local roads.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 2

THE FOLLOWING DIRECTION, ACTIVITIES, AND PRACTICES APPLY TO THE RECOMMENDED MOUNT ROSE WILDERNESS.

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A08	(D)	Manage the proposed Mount Rose Wilderness to protect its wilderness values.
RECREATION	A08	(D)	The proposed Mount Rose Wilderness is closed to all motorized vehicles.
CULTURAL RESOURCES	A01 A02 A03 A04	(A)	Inventory and evaluate the archaeological complex on Mount Rose. Nominate as appropriate and develop a plan for management consistent with wilderness.
MINERALS	G01	(A)	Manage any mineral activity to minimize effects on wilderness characteristics, with reclamation efforts to return the area to as near a natural condition as possible.
MINERALS	G02	(A)	Conduct a validity examination on all proposed mining operations.
PROTECTION	P01	(A)	Prepare a fire management area program for the proposed Mount Rose Wilderness.

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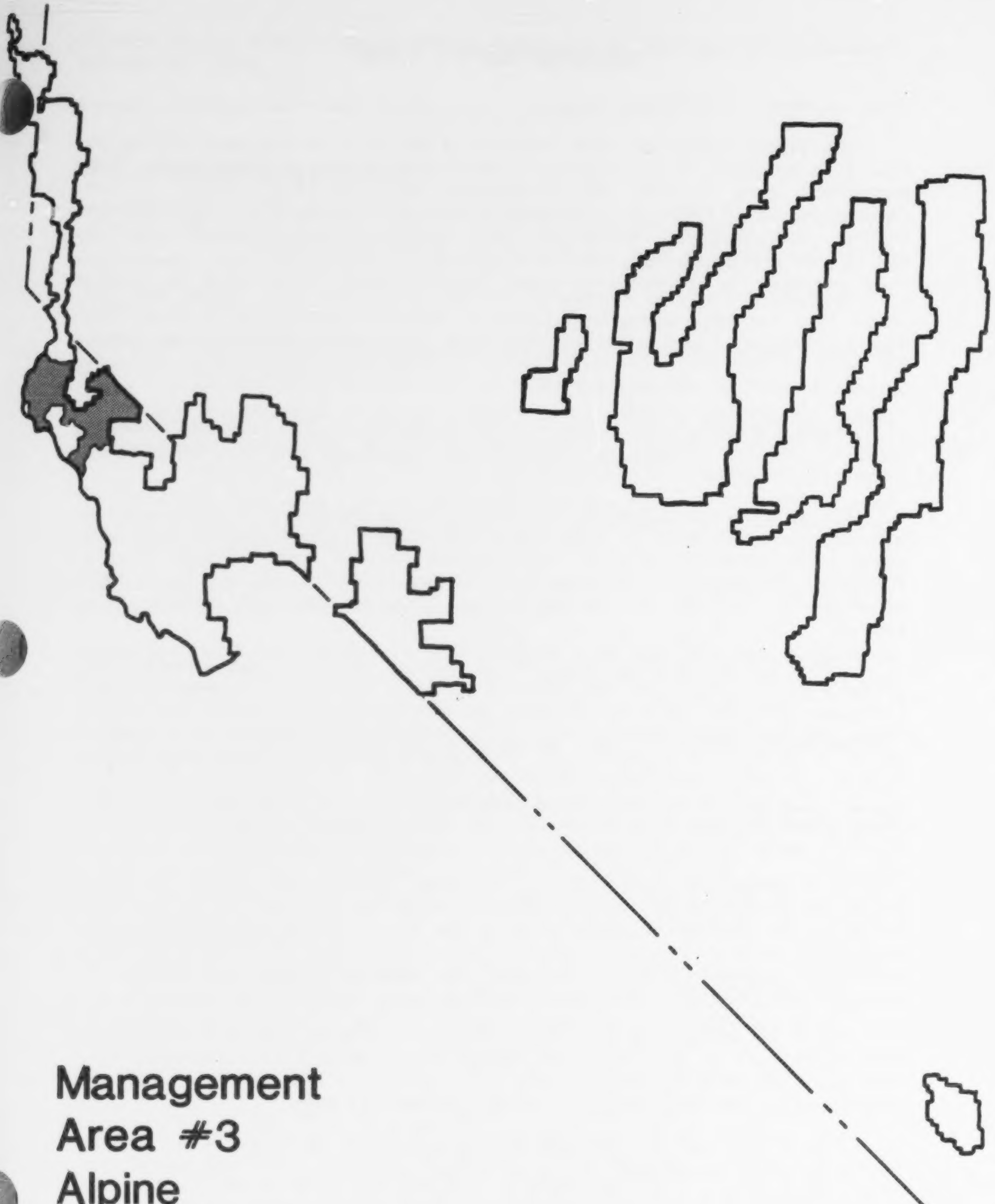
* For quantified activities, see Chapter V, Action Plans by Resource.



Management
Area #3
Alpine

MANAGEMENT AREA 3 - ALPINE

Total acreage: 114,600 net acres

The Alpine Management Area consists of National Forest lands in Alpine County in addition to the Mokelumne and Carson-Iceberg wildernesses. This management area includes the recommended addition (4,900 acre) to the Carson-Iceberg Wilderness. Topography varies from broad, high mountain meadows, such as Hope, Charity, and Faith valleys, to rugged mountain slopes and canyons along the West and East forks of the Carson River.

Vegetation includes commercial stands of Jeffrey pine, mixed red and white fir, and high elevation stands of red fir, western white pine, and mountain hemlock. Historically, logging of these stands has provided lumber for much of the early-day development in the lower agricultural valleys. Currently, most of the logs are taken to the sawmill in Gardnerville.

There are extensive suitable grazing lands in the area utilized by sheep or cattle. Range improvements and fences, which are important to successful management of the range resource, are in poor condition.

Alpine County is noted for its scenic and historical interests and is a popular recreation area for both summer and winter. There are six developed campgrounds, numereous trails including the Pacific Crest National Scenic Trail, stream and lake fishing, and hunting. Winter activities include cross-country skiing, helicopter skiing, snowmobiling, and general snow play.

Large private tracts exist in the area. Most of the private land belongs to a relatively few owners who have historically used it for livestock grazing. This is changing because some of the prime recreation lands are undergoing development. Fire protection is taking on a greater emphasis because of private land development adjacent to and within the Forest. Private land development at the toe of slopes is unusually susceptible to wildfire because of the phenomenon of strong downslope winds which cause fire to burn downslope, in many cases more hazardously than upslope.

This management area includes the East Fork of the Carson River, a potential "Wild, Scenic, or Recreational River" that meets the eligibility criteria for possible classification. The Musser-Jarvis watershed is the municipal water source for Markleeville. There are a number of small reservoirs along the Sierra Crest used for irrigation, and these reservoirs also provide fishing and public recreation.

There are three sensitive plant species located in the Jobs-Freel Peak area identified on the California Native Plant Society List "Inventory of Rare and Endangered Vascular Plants in California." There are two pair of spotted owls (sensitive species) in this management area.

Alpine includes the historic mining districts of Silver King, Silver Mountain, and Monitor/Mogul which primarily produced gold and silver but also copper, lead, zinc, and mercury. Production occurred in quartz veins and silicified shear zones in the metamorphics and volcanics and in an area of strong hydrothermal alteration in the silicified volcanics around

Colorado Hill. Also, tungsten mining took place in the Hope Valley District through the 1950s.

Acreage suitable for timber production: 22,027 acres

TOTAL MANAGEMENT AREA DIRECTION

Coordination with federal, state, and local agencies will be provided for the key resources of developed and dispersed recreation, wildlife, aesthetics, and watershed. Fire prevention and protection will be emphasized with other agencies and local governments to maintain key resource values.

Provisions will be made for increasing developed site capacity and enhancing dispersed recreational opportunities.

Vegetative manipulation will be conducted to enhance watershed, range, wildlife, aesthetic, and vegetative vigor; and to minimize the potential for catastrophic wildfire, and insect and disease infestations.

The Leviathan Mine site will be acquired from the state of California when suitable rehabilitation has occurred and agreement made for long-term heavy maintenance and reconstruction.

Acquisition of private lands will be emphasized to enhance recreation, aesthetic, and resource protection objectives.

Cooperation with the California Department of Fish and Game and the US Fish and Wildlife Service, will provide for future habitat for the Lahontan cutthroat trout.

Priority will be given to upgrading existing range structural improvements. Noxious farm weeds will be controlled.

The primary emphasis of recreation management will be to provide roaded natural experiences along county and state roads, and semi-primitive motorized and semi-primitive nonmotorized experiences in other areas.

Management Prescriptions

Wilderness (addition to the Carson-Iceberg)	4,900 Acres
Intensive Wildlife and Dispersed Recreation	32,400 Acres
Market Opportunities and Developed Recreation	77,300 Acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 3

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A01 A02 A03 A04	(A)	Inventory and evaluate emigrant trails and related resources. Develop a management plan to protect and/or interpret those areas deemed significant.
CULTURAL RESOURCES	A02 A03 A04	(A)	Inventory and evaluate the Silver Hill area for nomination to the National Register and/or the need for protection.
CULTURAL RESOURCES	A02 A03	(A)	Inventory and evaluate prehistoric resources in the Barber Peak area.
CULTURAL RESOURCES	A02 A03	(A)	Inventory and evaluate archival sites along the Carson River.
CULTURAL RESOURCES	A04	(D)	Protect the integrity of the Woodfords Cemetery as a Native American Site.
RECREATION	A05	(A)	Reconstruct Hope Valley Campground.
RECREATION	A05	(D)	Coordinate with the State of California Department of Parks and Recreation in an "Interagency Sno-Park Program."
RECREATION	A07	(A)	Operate and maintain all campgrounds as fee sites.
RECREATION	A07	(D)	Protect the proposed Faith Valley Campground from damaging activities.
RECREATION	A08	(D)	Manage the following nonmotorized management units to meet long-term nonmotorized recreation objectives; but, where applicable, allow for designated routes, snowmobiles, existing contracts, minerals, protection, and other valid activities conducted on a short-term or seasonal basis with the intent of closing and/or rehabilitating roads upon activity completion: Hawkins Peak, Barber Peak, Indian Creek, Noble Canyon, and Silver Hill. See Forest Plan maps.
RECREATION	A08	(D)	Coordinate with Alpine County to encourage retaining Hope Valley's natural conditions and values. Utilize zoning and acquisition as primary methods to accomplish this.
RECREATION	A08 A14	(D)	Protect the East Fork of the Carson River from any activity that may reduce its suitability for

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 3

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
			"Wild, Scenic, and/or Recreational River" classification until a suitability study is completed and recommendation is made. Interim management will be in accordance with Wild and Scenic River Management Guidelines. Cooperate with the BLM to improve the quality of the hot springs along the river.
RECREATION	A08	(D)	Maintain off-road vehicle closures to resolve conflicts between snowmobiles and cross-country skiers, and to prevent resource damage.
RECREATION	A08	(A)	Analyze and update annual ORV management to assure protection of soil, water, and wildlife values, and to enhance dispersed recreational opportunities.
RECREATION	A08	(A)	Coordinate with the state and county to provide facilities at Blue Lakes/Highway 88 junction to enhance winter recreational opportunities and provide for health and sanitation facilities.
RECREATION	A10	(A)	Reconstruct two miles of the PCT - East Fork Carson trail by 1987.
RECREATION	A10	(A)	Reconstruct 12 miles of trail by 1993.
RECREATION	A12	(D)	Manage the Pacific Crest National Scenic Trail to Level IV maintenance and in accordance with the National Scenic Trails Act.
RECREATION	A14	(D)	Manage State Highway 88, 89, and 4 to maintain State Scenic Highway qualities. Cooperate with counties, Caltrans, and adjacent National Forests in managing these corridors. Emphasize scenic and historical interests as primary resource values.
RECREATION	A14	(D)	Maintain a visual quality objective of retention in the foreground zone along State Highway 88, 89, and 4.
RECREATION	A14	(D)	Manage the middleground as partial retention for areas seen from State Highway 88, 89, and 4.
WILDERNESS	B03	(D)	Protect wilderness characteristics of the portion of the Carson-Iceberg not recommended for wilderness until Congress acts on the report for the entire area.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 3

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
WILDLIFE	C02 C03	(D)	Wildlife habitat improvement projects will emphasize improvement of deer winter range.
WILDLIFE	C01	(D)	Protect the sensitive plant community on and near Freel Peak.
WILDLIFE	C01	(A)	Cooperate with the California Department of Fish and Game in securing and maintaining conservation pools in as many of the small reservoirs along the Sierra Crest as possible.
WILDLIFE	C01	(A)	Provide for reintroduction of Lahontan cutthroat trout in Horsethief and Jeff Davis Creeks and improve fishery habitat throughout the area.
WILDLIFE	C01	(D)	Manage the 5,488 acre Barber Peak area to protect this critical deer winter range. This includes allocating all forage to wildlife. Cooperate with the US Fish and Wildlife Service in predator control to minimize effects on wintering big game herds.
WILDLIFE	C02	(D)	Manage spotted owl habitat per habitat capability models in the document "Northeast Zone Habitat Capability Models and Special Habitat Criteria."
WILDLIFE	C02 C03	(D)	Give priority to rehabilitation of key deer winter range damaged by fire if these areas will not recover naturally in a reasonable amount of time.
RANGE	D01	(A)	Complete nine initial range allotment plans and update one plan.
RANGE	D02	(A)	Complete 10,240 acres of initial range analysis and 3,100 acres of updated analysis.
RANGE	D03	(A)	Complete 900 acres of nonstructural initial improvements.
RANGE	D05	(A)	Complete 46 new structural improvements.
RANGE	D07	(A)	Administer and manage 14 grazing allotments, and complete examinations on 14 allotments.
RANGE	D07	(D)	Promote continuance of private land grazing permits in the Hope Valley area.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 3

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RANGE	D12	(A)	Complete control measures on four acres of noxious farm weeds.
TIMBER	E03	(A)	Develop silvicultural prescriptions considering visual, wildlife, and site productivity and economics as important factors.
TIMBER	E04	(A)	Perform reforestation as needed to carry out stand silvicultural prescriptions.
TIMBER	E05	(A)	Continue timber stand improvement as needed to carry out stand silvicultural prescriptions.
TIMBER	E07	(D)	High risk old growth, not needed for wildlife habitat, and overstocked intermediate Jeffrey pine stands, are highest priority for harvest. See Forest-wide standards for specific timber management activities.
WATER & SOIL	F03	(A)	Complete rehabilitation of the Leviathan Mine site. Conduct annual maintenance of structures.
WATER & SOIL	F03	(D)	Protect Leviathan Mine site from activities that will be adverse to revegetation and maintenance of improvements.
WATER, & SOIL	F03	(D)	Continue to manage the Musser-Jarvis municipal watershed as follows: allow no livestock grazing, no road or trail construction, and no timber cutting.
MINERALS	G05	(D)	Standard #8 under Forest-wide minerals standards and guidelines will be emphasized in areas identified as having highly sensitive resource values; e.g., Hawkins Peak, Barber Peak, Indian Creek, Noble Canyon, and Silver Hill. See Forest Plan maps.
LANDS	J11	(A)	Strive to acquire private lands that meet Forest-wide land acquisition criteria.
LANDS	J11	(A)	Complete the ongoing land exchange at Grover Hot Springs with the state of California.
LANDS	J18	(D)	Utilize existing borrow pits. Do not establish additional borrow pits in Woodfords Canyon.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 3

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
PLANNING	J22	(D)	Assist Alpine County in maintaining or improving its tax base through the land exchange program.
PLANNING	J22	(A)	Coordinate with other agencies in providing resource data for the proposed Watasheamu Dam and Reservoir.
FACILITIES	L01	(A)	Complete "Forest Development Transportation Facility Schedule."
FACILITIES	L01	(A)	Improve the Blue Lakes Road through the Forest highway program.
FACILITIES	L12	(A)	Construct 6.4 miles of local roads.
FACILITIES	L13	(A)	Reconstruct 13.4 miles of local roads.
FACILITIES	L42	(D)	Manage the following electronics and antenna sites according to site plans and established rules for their management: Hawkins Peak - Electronics Site Leviathan Peak - Electronics Site
PROTECTION	P01	(D)	Practice an aggressive fire management program to protect watershed values and private land below National Forest lands along the Woodfords face.
PROTECTION	P01	(D)	Manage vegetation in the Shay Creek summer home area to minimize current and future loss to insect disease and wildfire.
PROTECTION	P02	(A)	Complete preattack schedules for Diamond Valley, Fredericksburg, Hope Valley, Leviathan, and Heenan, with emphasis on hazard/risk assessment and identification of vegetative management needs.
PROTECTION		(D)	Coordinate and cooperate closely with the BLM, the California Department of Forestry, and local fire departments in suppressing wildfires.
PROTECTION	P11 P12	(D)	Emphasize vegetation management and activity fuel treatment ... etc.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 3

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
			PROBABLE ACTIVITIES FOR THE SECOND DECADE
RECREATION	A06	(A)	Construct Faith Valley Campground.
TIMBER	E04	(A)	Reforestation.
TIMBER	E05	(A)	Timber stand improvement.
FACILITIES	L12	(A)	Construct 6.3 miles of local roads.
FACILITIES	L13	(A)	Reconstruct 11.1 miles of local roads.

THE FOLLOWING DIRECTION, ACTIVITIES, AND PRACTICES APPLY TO THE RECOMMENDED ADDITION TO THE CARSON-ICEBERG WILDERNESS:

RECREATION	A12	(A)	Maintain the Pacific Crest National Scenic Trail in accordance with the National Scenic Trails Act to Level IV Maintenance Standards. Maintain closure of the trail to motorized vehicles.
WILDLIFE	C01	(D)	Wildlife and fish transplants will be considered only if species are indigenous to the area.
RANGE	D07	(D)	Manage livestock in Noble Canyon to minimize conflicts with Pacific Crest National Scenic Trail users.
RECREATION	A08	(D)	Reduce recreation and range conflicts at Noble Lake.
MINERALS	G01	(D)	Manage any mineral activity to minimize effects on wilderness characteristics, with reclamation efforts to return the area to as near a natural condition as possible.
MINERALS	G02	(A)	A validity examination will be conducted on all proposed mineral operations.
PROTECTION	P01	(D)	Manage wildfires to minimize effects on wilderness characteristics.

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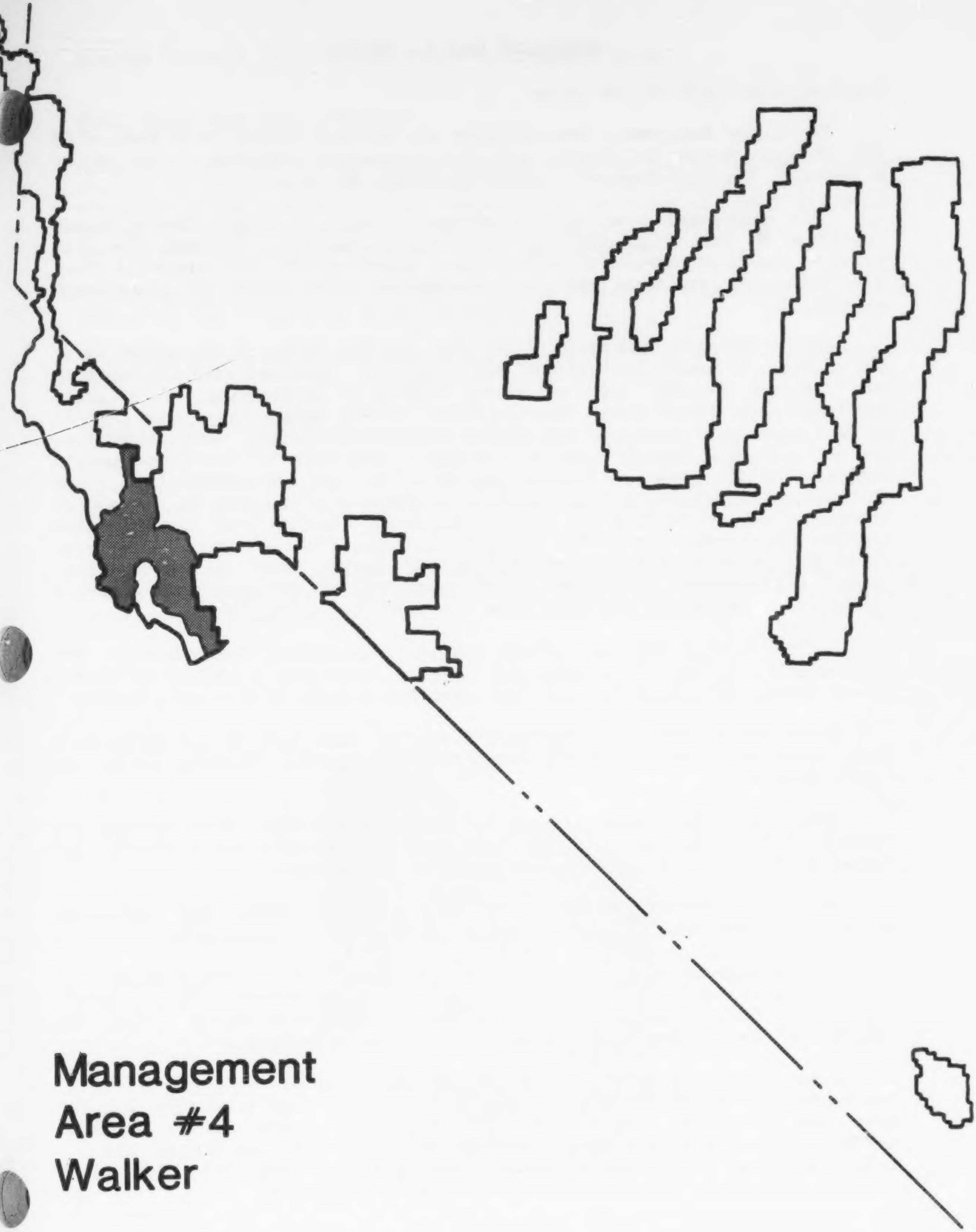
* For quantified activities, see Chapter V, Action Plans by Resource.

STANDARDS AND GUIDELINES FOR WILD AND SCENIC RIVERS
Prescriptions By Resource and Activity
(National Forest Lands within 1/4 mile of each streams)
East Fork of Carson River

Potential River Classes	Timber Management	Water Development FERC Projects	Mining	Other Development
Wild Source to Grey's crossing - 25 miles	No commercial timber removed. Cutting limited to removal incidental to primitive recreation such as trail management.	Dams and diversions prohibited. Unobtrusive removal of water for livestock and wildlife may be permitted.	Leasing not recommended. Common varieties will not be sold. Minerals activities including prospecting, development and extraction will be discouraged. Any surface disturbance will be fully rehabilitated and damaged resources stabilized to maintain primitive shorelines and watersheds.	New developments will be located outside river area environment (generally 1/4 mile).
Scenic Hangmans Bridge to Last Diverson Dam approx. 1 mile above Lahonton Fish Hatchery - 21 miles	Some timber removal permitted but no substantial adverse effect on river and immediate environment. Removal of insect and disease trees are examples of permitted removal.	Minor diversions may be permitted if no direct effect on free flowing river values.	Leasing and common varieties same as wild. Prospecting, development, and extracting of minerals will be done to minimize surface disturbance and fully mitigated to extent feasible.	New structures and developments may be permitted but will be limited to short stretches of the river corridor. Such structures and development will not have direct effect on the river.
Recreational Greys Crossing to Hangmans Bridge - US 89 1 1/2 miles east of Markleeville - 11 1/2 miles	Timber harvesting permitted but aesthetic, fish, wildlife, and other values will be protected.	Same as scenic.	Same as scenic.	Campgrounds, picnic areas, other developments permitted but will be designed to protect values for which river area was found to be eligible.



Management
Area #4
Walker

MANAGEMENT AREA 4 - WALKER

Total acreage: 203,700 net acres

The Walker Management Area includes all National Forest lands west of US 395 in Mono County, California, and the recommended addition to the Hoover Wilderness. The area does not include the Hoover Wilderness.

This management area is high elevation, with a rugged Sierra Nevada landscape of very high aesthetic and visual quality. Although the area supports stands of commercial Jeffrey pine, mixed conifer, and lodgepole pine, the timber is scattered and is interspersed with areas of grass/brush vegetation.

The Walker area is drained by the West and East forks of the Walker River and provides extensive recreational opportunities, important wildlife habitat, and livestock grazing. Lake and stream fishing is outstanding. Twin Lakes, Virginia Lakes, Green Creek, Buckeye Creek, Little Walker River, and Leavitt Meadows are highly developed and popular recreational areas. These constitute one of the most heavily used recreational complexes in the Intermountain Region. Publics from Los Angeles and San Francisco are dependent on these destination opportunities, and visitor services are the key to successful operation and maintenance of these complexes. Recreational opportunities include campgrounds, trailheads and pack stations, fishing resorts on private lands and under Forest Service permit, and summer homes on both National Forest and private inholdings. The community of Bridgeport is heavily dependent on recreation economies from the area (e.g., Twin Lakes).

Winter recreational activities include heli-skiing, snowmobiling, and cross-country skiing. Twin Lakes and Virginia Lakes have a history of severe winter storms and avalanches that have resulted in loss of life and property.

There are a number of significant special land uses in the management area, especially the US Marine Corps Mountain Warfare Training Center at Pickle Meadows.

Walker provides summer grazing for sheep and cattle. Most ranches are located in the lower valleys in Nevada where the animals are wintered, and livestock are moved to the National Forest for the summer.

The lower elevations have a history of large fires, and increasing private land development is accelerating the need for fire protection.

The management area includes the West Walker River which meets the eligibility criteria for possible "Wild and Scenic River" classification. There is a Soil Conservation Service "SNOTEL" and snow course within the boundary of the recommended addition to the Hoover Wilderness.

Since around the 1860s, there has been intermittent mining activity in the Jordan, Keith, and West Walker mining districts. Most production was for gold and silver in quartz veins and silicified zones in the Mesozoic metamorphics and granitic rocks. However, there has also been placer gold mining and minor production of copper, lead, zinc, and tungsten. There is no current production, but extensive exploration is continuing.

Acreage suitable for timber production: 14,540 acres

TOTAL MANAGEMENT AREA DIRECTION

Management emphasis within the recommended addition to the Hoover Wilderness will be to meet the objectives and intent of the Wilderness Act. In the remainder of the management area, emphasis will be directed toward the amenity values of wildlife, dispersed recreation, developed recreation, and water quality, in the major canyons and along the highways.

Management will provide for orderly mineral resource activities in a manner that minimizes effects on other resources.

A cost-effective and coordinated fire protection program will be implemented.

Management Prescription

Wilderness 1/	72,700 acres
Intensive wildlife and dispersed recreation	46,100 acres
Market opportunites and developed recreation	84,900 acres

1/ Use "wilderness" management prescription to protect wilderness values and to carry out objectives and intent of the California Wilderness Act for the Congressional Study Areas.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 4

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A01 A02 A03 A04	(A)	Inventory and evaluate early emigrant trails. Develop a management plan to protect and/or interpret those areas deemed signigicant.
CULTURAL RESOURCES	A02 A03	(A)	Inventory and evaluate archival sites located along the Walker River near Sonora Junction and Leavitt Meadows.
RECREATION	A01	(A)	Develop a master plan for the Leavitt Lodge special use complex.
RECREATION	A05	(A)	Reconstruct Lower Twin, Sawmill, and Honeymoon campgrounds. Rehabilitate water system at Trumbull Lake Campground by 1988.
RECREATION	A06	(A)	Construct Boulder Campground by 1990.
RECREATION	A07	(D)	Issue no resort special use permits except for existing uses.
RECREATION	A06 A07 A08	(D)	The following direction applies to the Twin Lakes recreation area to meet public recreational demand: (1) expand the developed campground capacity; (2) rehabilitate existing campgrounds; (3) restrict overnight camping to developed sites; (4) allow no commercial pack stations to operate on Forest lands; (5) improve access to upper and lower Twin Lakes; (6) issue no outfitter-guide permits that involve stock use in the canyon.
RECREATION	A06 A08	(D)	The following direction applies to the Virginia Lakes recreation area to meet public recreation demand: (1) protect the Castle Rock and Virginia Creek sites for possible future development; (2) construct a trailhead above Trumbull Lake Campground.
RECREATION	A08	(D)	Manage the following nonmotorized management units to meet long-term nonmotorized recreation objectives; but, where applicable, allow for designated routes, snowmobiles, existing contracts, minerals, protection, and other valid activities conducted on a short-term or seasonal basis with the intent of closing and/or rehabilitating roads upon activity completion: Lost Cannon, Long Valley-Sawmill. See Forest Plan maps.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 4

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A08	(D)	Efforts will be coordinated with the BLM for managing recreation use along Virginia Creek.
RECREATION	A06	(D)	The following direction applies to the Green Creek recreation area to meet public recreation demand: (1) allow no commercial pack station; (2) construct a trailhead facility.
RECREATION	A07 A08	(D)	The following direction applies to the Leavitt Meadows, Leavitt and Koenig Lake area: (1) allow no USMC activity in the Leavitt Meadows Campground; (2) close the Leavitt Lake road to vehicles during wet periods; (3) allow no camping or vehicular travel within 200 feet of Leavitt Lake.
RECREATION	A07 A08	(A)	Management will provide high quality visitor information and education at the Bridgeport Ranger Station, trailheads, campgrounds, and in the back country.
RECREATION	A08	(D)	Protect the wild, scenic and/or recreational qualities of the West Walker River until a suitability study is completed.
RECREATION	A08	(D)	Cooperate with Mono County to evaluate avalanche hazards and measures to alleviate such hazards in the Twin Lakes drainage.
RECREATION	A08	(D)	Limit boating on Big Virginia Lake, Little Virginia Lake, and Trumbull Lake to nonmotorized boats.
RECREATION	A07	(D)	Manage all developed campgrounds as fee sites and to standard.
RECREATION	A10	(A)	Reconstruct seven miles of trail by 1991.
RECREATION	A06 A11	(A)	Acquire public access to the Hoover Wilderness across private lands above Upper Twin Lake. Construct trailhead to facilitate public use by 1990.
RECREATION	A11	(D)	Manage Sonora Pass, Chango Lake, Lost Cannon Peak, Eagle Peak, Sawmill Ridge, and Little Walker-Long Valley areas to meet semi-primitive nonmotorized recreation objectives.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 4

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A14	(D)	Manage the following road corridors to meet a VQO of retention: Virginia Lakes, Robinson Creek, Robinson Creek-Buckeye, Green Creek, Sonora Pass, Leavitt Lake, and US 395 (Walker River Canyon).
WILDLIFE	C01	(A)	Coordinate with the California Department of Fish and Game, and provide for reintroduction of Lahontan cutthroat trout in Mill Creek, Slinkard Creek, Silver Creek, Wolf Creek, Eagle Creek, and Dunderberg Creek per approved environmental assessment. Enhance Fish habitat in other streams.
WILDLIFE	C01	(A)	Coordinate with the California Department of Fish and Game and provide for reintroduction of California bighorn sheep and peregrine falcon in Mono County.
WILDLIFE	C01	(D)	Manage snowmachine access to eliminate conflicts with wintering big game.
WILDLIFE	C01	(A)	Update and implement the East Walker and West Walker deer herd plans.
WILDLIFE	C02 C03	(D)	Wildlife habitat improvement projects will emphasize improvement of deer winter range.
WILDLIFE	C03	(D)	Give priority of wildlife and fish improvements to Lahontan cutthroat trout.
WILDLIFE	C04	(A)	As needed, mark wildlife retention trees in the commercial and personal-use fuelwood areas.
WILDLIFE	C04	(A)	Maintain the By-Day Creek grazing closure, the stream stabilization structures, and future structures.
RANGE	D01 D06	(A)	Complete six new range allotment management plans and update 12 others.
RANGE	D01	(D)	Utilize Little Walker as a demonstration allotment to show how grazing can be compatible with recreation, watershed, and wildlife.
RANGE	D01	(D)	Coordinate livestock trailing with adjacent BLM and National Forest allotments.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 4

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RANGE	D02	(A)	Complete 46,145 acres of initial range allotment analysis.
RANGE	D03	(A)	Complete 100 acres of nonstructural initial improvements.
RANGE	D05	(A)	Complete five new structural improvements.
RANGE	D06	(A)	Maintain the Jordan Basin, Dunderberg, Sawmill, and Stockade exclosures.
RANGE	D07	(A)	Evaluate the grazing resource and activities in the area between Doc and Al's Resort and Honeymoon Campground (Robinson Creek area). If necessary, close to livestock grazing except for authorized trailing.
RANGE	D07	(D)	Emphasize management on Little Walker Allotment to bring the resource value rating for livestock to a good or better condition.
RANGE	D07	(D)	Strive to achieve high ecological status along West Walker River above Leavitt Meadow, Green Creek, and Buckeye. Maintain at least 90 percent of the natural bank stability as measured by the General Aquatic Wildlife System (GAWS).
RANGE	D07	(A)	Evaluate the grazing resource and activities in Virginia Creek and, if necessary, close the area to livestock grazing.
RANGE	D07	(A)	Administer and manage 19 allotments.
RANGE	D12	(A)	Complete control on 150 acres of noxious farm weeds.
TIMBER	E04	(A)	Conduct reforestation as needed to carry out stand silvicultural prescriptions.
TIMBER	E05	(A)	Provide timber stand improvement as needed to carry out stand silvicultural prescriptions.
TIMBER	E07	(D)	Manage firewood around lakes and streams to protect ecological and recreational values.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 4

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
TIMBER	E07	(D)	Provide a continuing supply of fuelwood through the district personal-use and commercial fuelwood programs.
WATER & SOIL	F03	(A)	Complete 11 acres of watershed improvement. Give priority to rehabilitation of West Walker at Leavitt Meadows.
MINERALS	G05	(D)	Standard #8 under Forest-wide minerals standards and guidelines will be emphasized in areas identified as having highly sensitive resource values; e.g., Lost Cannon and Long Valley-Sawmill. See Forest Plan maps.
FACILITIES	L01	(A)	Complete "Forest Development Transportation Facility Schedule."
FACILITIES	L09	(A)	Improve the Robinson Creek-Buckeye road to accommodate recreational vehicles and provide for user convenience. Institute seasonal road closures as necessary to protect roads from damage during wet periods.
FACILITIES	L12	(A)	Construct 7.4 miles of local roads.
FACILITIES	L13	(A)	Reconstruct 3.7 miles of local roads.
FACILITIES	L19	(A)	Maintain road closures at By-Day Creek to protect wildlife and watershed values.
FACILITIES	L35	(A)	Maintain the following electronic sites for Forest Service administrative use: Mean Peak and Lost Cannon Peak. Lost Cannon Peak is to be for Forest Service use only while Mean Peak will be for joint use between the Marine Corps and Forest Service.
FACILITIES	J01	(D)	The following provides specific direction for management of electronic sites within this management area: Mean Peak - The existing users of this site are the Marine Corps and Forest Service. Issue no permits for other users of the site. Existing users will maintain facilities in such a way that they are not visiable from US 395 and the Hoover Wilderness Addition Planning Areas.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 4

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
			Hunewill Hills - The existing user of this site is the Mono County Service Area #5, a local TV improvement district. Issue no permits for other users of the site. Facilities at the site will be maintained in such a manner that they are not visible from US 395 and the Twin Lakes Road. North Hunewill Hills - The existing user of this site is the Mono County Service Area #5, a local TV improvement district. The existing permit authorizes only a receiving antenna and a short right-of-way for a coaxial cable. Issue no permits for other users of the site. Facilities at the site will be maintained in such a manner that they are not visible to motorists on the Twin Lakes Road. Virginia Lakes Ridge, Sonora Pass Bridge, and Leavitt Meadows - These are Soil Conservation Service electronically remote reading snow measurement sites (SNOTEL). Use of these sites is limited to the SCS only. These sites will be managed in accordance with the October 22, 1970, Memorandum of Agreement with the SCS and the supplemental agreements to it. Nevada Creek Ridge - The existing user of this site is HFU-TV, a local TV cable company. The existing permit authorizes only a receiving antenna and a short right-of-way for coaxial cable. Issue no permits for other users of the site. Facilities will be maintained in such a manner that they are not visable from US 395 and other nearby roads.
SPECIAL USES	J01	(D)	The following direction applies to areas used by the US Marine Corps: (1) allow for general public use of the area in addition to USMC use; (2) coordinate and cooperate with the USMC in fire suppression, search and rescue, and maintenance of forest development roads within the limited area; (3) give priority to military uses within the intensive use area; (4) provide for public access to the Silver Creek road through and/or around the base camp.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 4

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
SPECIAL USES	J01	(D)	Issue no outfitter-guide permits to new pack stations with base facilities on private land.
SPECIAL USES	J01	(D)	Issue outfitter-guide permits based on site-specific studies which will determine the commercial share of the total recreation use.
LANDS	J11	(A)	Strive to acquire private lands that meet Forest-wide land acquisition criteria.
LANDS	J15	(A)	Consolidate ownership in areas of intense recreation use and/or high natural hazard potential.
PROTECTION		(D)	Maintain a state of preparedness for volcanic activity in the Long Valley Caldera as outlined in the contingency plan.
PROTECTION	P11	(A)	Emphasize fuel management treatment near Robinson Creek-Buckeye, Walker River Canyon, and in Antelope Valley to achieve objectives set in the Sierra Front Initiative. Maintain existing fuelbreaks in Twin Lakes, West Walker Canyon, and behind the town of Walker. See "Fire Management Action Plan" for detailed program work in Chapter V.
PROTECTION	P02	(A)	Complete pre-attack fire schedules including hazard/risk analysis, vegetative management plan, and strategy planning.

THE FOLLOWING DIRECTION, ACTIVITIES, AND PRACTICES APPLY TO THE PROPOSED ADDITION TO THE HOOVER WILDERNESS:

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A12	(A)	Maintain the Pacific Crest Trail to Level IV Maintenance Standards. Maintain closure of the trail to motorized vehicles.
RECREATION	A03	(D)	Limit party size, stock numbers, and total number of visitors so wilderness values and ecological conditions are not degraded. The recreation carrying capacity will determine the recommended use levels to keep this area in high ecological condition.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 4

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A10	(A)	Reconstruct portions of the following trails: 2.1 miles of West Walker; .9 miles of Fremont Lake; 1.0 miles of Emigrant Pass; 1.6 miles Cinko Lake; .4 miles of Cascade Creek; and 2 miles of Beartrap Lake.
WILDLIFE	C01	(D)	Wildlife and fish transplants will only be considered if indigenous to the area.
MINERALS	G01	(D)	Close the Snow Lake mining road above Leavitt Lake to all motorized vehicles. Allow only vehicle travel associated with approved operating plans pursuant to the 1872 Mining Law. Coordinate any proposal with the Stanislaus National Forest.
MINERALS	G01	(D)	Manage any mineral activity to minimize effects on wilderness characteristics, with reclamation efforts to return the area to as near a natural condition as possible.
MINERALS	G02	(A)	A validity examination will be conducted on all proposed mineral operations.
FACILITIES	L25	(D)	Retain the cabin and horse pasture at Upper Paiute Meadows to facilitate management of the proposed wilderness and the existing Hoover Wilderness. Maintain cabin to retain a rustic appearance.
RECREATION	A08	(A)	Monitor recreational use around the high lakes and eliminate overnight use or restrict camping immediately adjacent to the lakes to protect soil, water, and aesthetic values.
RECREATION	A08	(D)	Implement the "Wilderness Permit System" for this recommended wilderness addition for consistancy with current Hoover Wilderness management.
RANGE	D01	(A)	Complete one new allotment management plan and update two plans.
RANGE	D01	(D)	Utilize Paiute Meadows as a demonstration allotment to show how grazing can be compatible with recreation, watershed, and wildlife.
RANGE	D02	(A)	Complete 37,265 acres of updated range analysis.
RANGE	D07	(A)	Administer and manage three allotments -- Paiute Meadows, Sardine, and Poison Creek.

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* For quantified activities, see Chapter V, Action Plans by Resource.

STANDARDS AND GUIDELINES FOR WILD AND SCENIC RIVERS
Prescriptions By Resource and Activity
(National Forest Lands within 1/4 mile of each stream)
West Walker River

Potential River Classes	Timber Management	Water Development FERC Projects	Mining	Other Development
Wild Source (Tower Lake) to Leavitt Meadows - 13 miles	No commercial timber removed. Cutting limited to removal incidental to primitive recreation such as trail management.	Dams and diversions prohibited. Unobtrusive removal of water for livestock and wildlife may be permitted.	Leasing not recommended. Common varieties will not be sold. Minerals activities including prospecting, development, and extraction will be discouraged. Any surface disturbance will be fully rehabilitated and damaged resources stabilized to maintain primitive shorelines and watersheds.	New developments will be located outside river area environment (generally 1/4 mile).
Scenic Leavitt Meadows to US 395 - 11.1 miles	Some timber removal permitted but no substantial adverse effect on river and immediate environment. Removal of insect and disease trees are examples of permitted removal.	Minor diversions may be permitted if no direct effect on free flowing river values.	Leasing and common varieties same as wild. Prospecting, development, and extracting of minerals will be done to minimize surface disturbance and fully mitigated to extent feasible.	New structures and developments may be permitted but will be limited to short stretches of the river corridor. Such structures and development will not have direct effect on the river.
Recreational US 395 to Topaz Lake Diverson - 21.7 miles	Timber harvesting permitted but aesthetic, fish, wildlife, and other values will be protected.	Same as scenic.	Same as scenic.	Campgropunds, picnic areas, other developments permitted but will be designed to protect values for which river area was found to be eligible.

Management Area #5 Existing Wilderness

MANAGEMENT AREA 5 - EXISTING WILDERNESS

Total acreage: 135,094 net acres

This management area consists of three established wilderness areas:

Acres	Toiyabe Acres	Other Forest Acres	Total Acres
Hoover	39,094 Acres	Inyo N.F.	47,937
Carson-Iceberg	77,000 Acres	Stanislaus N.F.	160,000
Mokelumne	19,000 Acres	Eldorado N.F. Stanislaus N.F.	105,165

The Hoover Wilderness lies along the eastern slope of the Sierra Nevada Range in California and possesses very high visual quality. Elevations range from 7,700 to 12,596 feet. It is bounded on the west by the North Tuolumne backcountry portion of Yosemite National Park.

There are six major drainages in the Toiyabe portion of the Hoover: Little Walker River, Molybdenite Creek, Buckeye Creek, Robinson Creek, Green Creek, and Virginia Creek. The dams and reservoirs in the Green Creek drainage predate establishement of the National Forest, and are not under special use permit; they are owned by private individuals. Outstanding natural beauty can be found in each of these areas.

Prominent peaks such as Matterhorn, Twin, Crown Point, Eagle, Dunderberg, Excelsior, Hawksbeak, and Black Mountain are favorites of mountain climbers and photography buffs. This whole region is characterized by "U" shaped canyons carved by glacial activity. Canyon bottoms frequently have extensive flats with shallow streams and grassy meadows. The Matterhorn Peak area still retains portions of its glacial past in the form of five glaciers. Much of this area is granitic batholith and volcanic cover and is of low mineral potential. There has been little or no past mining related activity. An area of significant gold and silver mineralization at the south end of the Hoover Wilderness was actively prospected through the 1950s as part of the Lundy Mining District. Fifteen mining claims were maintained here after December 31, 1983. However, no further work was done, no operating plans were submitted, and the claims were abandoned in 1985.

Vegetation of the area is scattered among the rocky flats and ledges of the Sierra granitic batholith. The major cover types are alpine, subalpine forest, red fir forest, mixed conifer forest, and sagebrush. The Hoover includes all or portions of five grazing allotments. The entire area historically supported populations of California bighorn sheep, although currently there are no existing populations. The Hoover Wilderness is rich in history with many of the names of its lakes and geological features being derived from "yesterday's travelers" who, up to the 19th Century, were the Paiute and Southern Washoe Indians.

The Carson-Iceberg Wilderness includes the headwaters of the East Fork of the Carson River, Wolf Creek, and Silver King. The wilderness includes lands both on the Toiyabe and Stanislaus National Forests. The area is mountainous with several peaks over 10,000 feet. There are several major streams and broad meadows, as well as narrow canyons. Topography becomes steeper and rougher on the west or near the main Sierra Crest. There is a wide variety of vegetative types from commercial timber stands to barren country. Other vegetative communities are sagebrush-grass meadow and pinyon/juniper woodland. The Carson-Iceberg contains some key habitat for the Paiute and Lahontan cutthroat trout.

The Mokelumne Wilderness includes two separate parcels, the area around Raymond Peak and the Tragedy-Elephants Back area at the head of Forestdale Creek. Both are at high elevation and near or adjacent to the Sierra Crest. Trees are scattered, and the area is close to or above timberline in many locations. The Pacific Crest Trail is located through this wilderness. Prominent peaks include Reynolds Peak and Raymond Peak.

Acreage suitable for timber production: 0 acres

TOTAL MANAGEMENT AREA DIRECTION

Management emphasis will be directed toward meeting objectives and intent of the Wilderness Act.

Wilderness will be managed to provide outstanding opportunities for solitude, physical and mental challenge, primitive recreation, and to maintain wilderness characteristics of the land.

Any mineral development activity relating to valid existing rights will be managed to minimize effects on wilderness characteristics, with reclamation efforts to return the area to as near a natural condition as possible.

A validity examination will be conducted on all proposed mineral operations.

Continuity and consistency of management decisions will be maintained among the separate authorities administering different portions of the same wilderness.

Recreational use of wilderness will be provided to the extent that it does not degrade the values for which wilderness was established.

Paiute cutthroat trout will have the highest priority in Silver King, Coyote Valley, and Corral Valley, and will be managed to provide for recovery as per the Paiute Recovery plan. All conflicts will be mitigated or eliminated.

Lahontan cutthroat trout habitat will be enhanced. Cooperation with the California Department of Fish and Game, and the US Fish and Wildlife Service will serve to maintain and increase populations.

Management Prescription

Wilderness	135,100 Acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 5

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A02 A03	(A)	Inventory and evaluation will be conducted prior to alteration or removal of any historical structures.
RECREATION	A01	(D)	Determine adequacy of each trail system within the wilderness for meeting objectives by 1989.
RECREATION	A10	(A)	Relocate and reconstruct trails that are causing adverse impacts on the social and physical resources of wilderness. Rehabilitate abandoned trails by 1995.
RECREATION	A10	(A)	In addition to annual maintenance, complete the following trail projects: Hoover Wilderness - - Rebuild portions of the following trails: Buckeye Forks to Kirkwood Pass (1.2 miles); Anna Lake (1.7 miles); and Switchbacks between Crown Lake and Snow Lake (.8 miles of Rock Island Pass Trail). - Remove the unsafe log bridge at the second stream crossing above Barney Lake and replace with another log bridge by 1994. - Improve the section of trail leading to Burro Pass (1.4 miles) by 1992 following coordination with Yosemite National Park. - Construct some dry crossings on the Summit Lake Trail (.2 miles) by 1992. Carson-Iceberg - - Relocate trail No. 017 (two miles) along the east side of Long Valley where it crosses a wet meadow, by 1988. - Relocate and reconstruct the steep portion of trail No. 020 (one mile) from the ridgetop between Corral Valley and Coyote Valley down to Coyote Valley by 1988. - Relocate and reconstruct the steep and wet meadow portions of trail No. 020 from the ridge top between Coyote Valley and Upper Fish Valley down to Upper Fish Valley (two miles) by 1988. - Relocate and reconstruct the steep trail from Lower Fish Valley to Tamarack Lake by 1990.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 5

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
WILDERNESS	B03	(D)	Limit party size, stock numbers, and total number of visitors so wilderness values and ecological conditions are not degraded if carrying capacity studies show degradation is occurring.
WILDLIFE	C01 C02 C03	(A)	Maintain and improve Paiute cutthroat trout habitat in Silver King, Coyote Valley, and Corral Valley. Paiute cutthroat trout will have the highest priority in these areas and will be managed to provide for recovery. All conflicts will be mitigated. Improve fishery habitat to good condition in all other portions of the area.
WILDLIFE	C02 C03	(A)	Habitat improvements for Paiute cutthroat trout will require both structural and nonstructural improvements. Habitat improvement projects will include debris removal, willow planting, streambank stability measures, temporary electric fencing to exclude livestock, and other structural improvements.
WILDLIFE	C01	(D)	As opportunities arise, coordinate with the California Department of Fish and Game, and provide reintroduction of California bighorn sheep and peregrine falcon in Mono County.
RANGE	D01	(A)	Complete one initial plan and update six plans.
RANGE	D01	(D)	Coordinate livestock trailing with adjacent National Forest allotments.
RANGE	D06	(A)	Complete 17 new range structural improvements that meet criteria of protecting or maintaining wilderness values.
RANGE	D07	(A)	Administer and manage six grazing allotments, complete examinations on six allotments annually.
RANGE	D07	(D)	Livestock grazing operations, where established prior to designation of wilderness, shall, pursuant to Sec. 4(d) (4) (2) of the Wilderness Act, be permitted to continue, subject to provisions of 36 CFR 293. "Committee Guidelines and Policies Regarding Grazing in National Forest Wilderness Areas" (H.R. Report No. 96-1126, dated 6/24/80) will be applied in a practical, reasonable, and uniform manner in all National

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 5

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
			Forest wildernesses. These guidelines and policies are applicable only to livestock grazing operations.
RANGE	D07	(D)	Permit motorized access and uses for livestock management in the Wolf Creek drainage that existed prior to wilderness designation and in accordance with direction in the 1984 California Wilderness Act.
RANGE	D07	(D)	Continue the administrative grazing closure of identified allotments to protect soil and water resources.
WATER & SOIL	F03	(D)	Implement measures to protect and rehabilitate streams and lakesides that have been adversely affected by human use.
WATER & SOIL	F03	(A)	Place restrictions within Hoover on camping activities within 100 feet of streams and lakes. Advise all visitors to camp at least 100 feet from streams and lakes in the Carson-Iceberg and Mokelumne where topography permits. In no case will camping be closer than 25 feet.
SPECIAL USES	J01	(D)	Limit outfitter-guide permits so they are commensurate with wilderness values.
SPECIAL USES	J01	(D)	In the Hoover Wilderness issue outfitter-guide permits based on site-specific studies which will determine the commercial share of total recreation use.
SPECIAL USES	J01	(D)	Issue no outfitter-guide permits on the Bridgeport District for new pack stations with base facilities on private land.
LAND	J01	(D)	Phase out Wolf Creek and Poison Flat snow survey improvements in the Carson-Iceberg Wilderness.
FACILITIES	L25	(A)	Maintain the Soda Spring Administrative Site as an improvement necessary for administration of the Carson-Iceberg Wilderness. Transfer Connell's Cow Camp maintenance to range permittee and the California Department of Fish and Game.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 5

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
FACILITIES	L28	(D)	Motorized equipment such as chain saws, power drills, and helicoptors may be used as necessary to maintain the dams at Green, East, and West lakes. Tractors are not authorized. Approval from the Regional Forester is required and may be given on a case-by-case basis.
FACILITIES	L12	(D)	Coordinate sign planning management in the Hoover
RECREATION	A11		Wilderness with the Inyo and Stanislaus National Forests and Yosemite National Park; in the Carson-Iceberg with the Stanislaus; and in the Mokelumne with the Eldorado and Stanislaus.
PROTECTION	P01	(A)	Prepare fire management action programs for Carson-Iceberg and Mokelumne in coordination with the Pacific Southwest Region. Where appropriate, these programs shall provide for fire to assume its natural role as an ecosystem process.
PROTECTION	P01	(A)	Revise the Hoover fire management action programs as necessary and include Hoover West.

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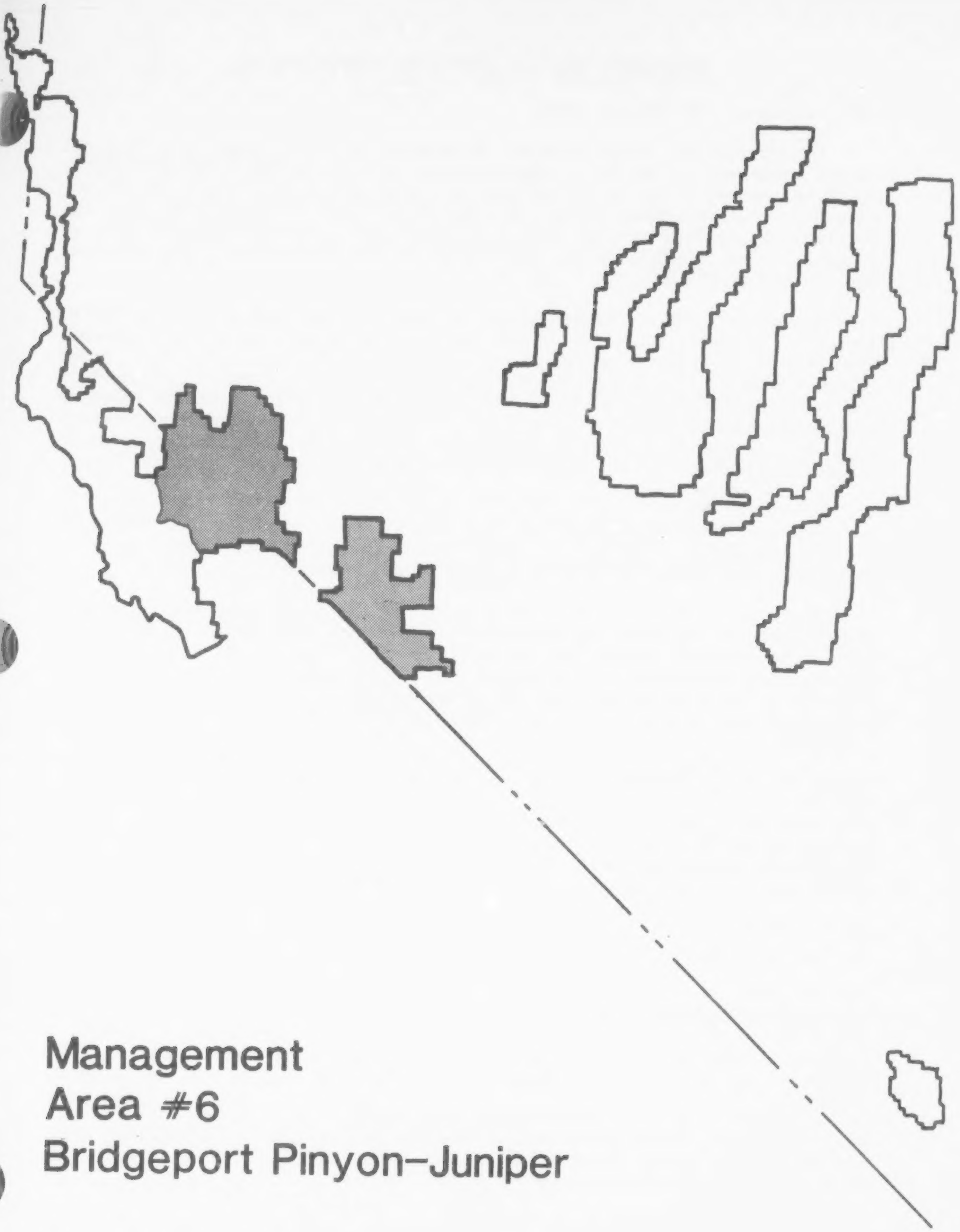
* For quantified activities, see Chapter V, Action Plans by Resource.



Management
Area #6
Bridgeport Pinyon-Juniper

MANAGEMENT AREA 6 - BRIDGEPORT PINYON/JUNIPER

Total acreage: 605,400 net acres

The Bridgeport Pinyon/Juniper Management Area includes the National Forest lands east of US 395 in Mono County, California, and Lyon and Mineral counties, Nevada. The area includes the spectacular Sweetwater Mountains, Pine Grove Hills, Bodie Hills, Wassuk Range east of Hawthorne, and the Excelsior Range east of Mono Lake. Although there are scattered pockets of lodgepole pine, Jeffrey pine, and aspen on the Sweetwaters, the dominant species is pinyon pine.

Mining activity has taken place throughout this area since the 1860s, including historic production in the Masonic, Patterson, Lucky Boy (Ramona), Washington, Wellington, Wilson, and Silver Star mining districts. Major production has occurred off the Forest around Aurora and Bodie. Production was mostly gold and silver in quartz veins and silicified zones in Mesozoic granitic and metamorphic rocks; however, copper, lead, zinc, and tungsten have also been produced. Current production at Borealis, and most continuing exploration, is focused on large, low-grade disseminated gold deposits, mostly in Tertiary volcanics.

Much of the pinyon pine was cut before 1900 in support of early-day mining operations. Historic mining camps include China Camp, Masonic, Belfort/Boulder Flat, Pine Grove, Silverado, and Rockland.

The area supports two wild horse herds, on the Mount Hicks and Montgomery Pass wild horse and burro territories. Much of the area is grazed by either cattle or sheep, mostly as spring and fall transition range. Range productivity is generally low except for higher elevation sites. The area supports a small antelope herd and provides key winter range for the Mono Lake, Casa Diablo, and the West and East Walker deer herds.

Fuelwood gathering is a major activity. There are two small campgrounds in the area, and recreational use is light and dispersed.

This management area includes the Sweetwater RNA and the East Walker River that has been inventoried as a potential Wild and Scenic River by the National Park Service. This river will be studied for its eligibility and suitability as a Wild and Scenic River by the BLM.

Acreage suitable for timber production: 4,361 acres

TOTAL MANAGEMENT AREA DIRECTION

Management will emphasize key values of wildlife, dispersed recreation, and grazing; and wild horse management in areas with significant wild horse populations.

Management will provide for the orderly exploration, development, and reclamation of mining resources in a manner that minimizes effects on range, wildlife, cultural resource, and recreation values.

The fuelwood program will provide for public firewood and will be managed to improve wildlife habitat conditions.

Management Prescription

Intensive Wildlife and Dispersed Recreation	405,200 Acres
Market Emphasis	14,200 Acres
Wild Horses, Wildlife, and Dispersed Recreation	186,000 Acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 6

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A01 A02 A03	(A)	Conduct a systematic sample survey in the Pine Grove Hills and Sweetwaters in correlation with project survey on cordwood sales to aid in development of management options and evaluation of the resource.
CULTURAL RESOURCES	A01 A02 A03 A04	(A)	Conduct thematic inventory and evaluation of known historic townsites and structures. Nominate as appropriate and develop a management prescription which addresses protection needs for National Register sites as well as management options available for sites not included in the Register.
CULTURAL RESOURCES	A03 A04	(A)	Complete evaluation and nominate, if appropriate, the following areas: Mount Hicks quarries, Rye Grass Spring Village, Pole Line Wickiups, NDOT sites, Excelsior Rock Alignments, Gulch Springs vicinity, Borealis vicinity, Whisky Flat, and Excelsior game traps.
RECREATION	A06	(A)	Upgrade the Bridgeport Visitor Information Center facility.
RECREATION	A08	(D)	Manage the Sweetwaters to meet nonmotorized recreation objectives, but allow for designated routes, snowmobiles, special uses, and valid mineral and protection activities where applicable. See Forest Plan maps.
RECREATION	A08	(D)	Manage snowmachine access to eliminate conflicts with wintering big game in Wellington Hills, Burcham Flat, and Blackwall Canyon to Gulch Spring.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 6

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A14	(D)	Protect the wild, scenic, and/or recreational qualities of the East Walker River until the suitability study by the BLM is completed.
RECREATION	A07	(D)	Manage Desert Creek Campground as a self-service unit. Remove units that are excess to demand by 1987.
WILDLIFE	C01	(D)	As needed, restrict vehicular access on big game winter ranges.
WILDLIFE	C01	(D)	Priority for management in Rough Creek will be for antelope and Lahontan cutthroat trout.
WILDLIFE	C01	(A)	As opportunities arise, coordinate with the California and Nevada Wildlife agencies and provide for the reintroduction of Lahontan cutthroat trout in Rough Creek, Desert Creek, and Frying Pan Creek per approved environmental assessment. Enhance all other fishery habitat.
WILDLIFE	C02	(D)	The following direction applies to key antelope range in Rough Creek: (1) antelope will have priority for available forage and habitat; (2) fencing will be held to a minimum and safely designed for antelope use; (3) no new roads will be constructed; (4) do not allow conversion of operations from cattle to sheep; and (5) evaluate the Rough Creek area for ORV closure.
WILDLIFE	C02 C03	(D)	Wildlife habitat improvement projects will emphasize improvement of deer winter range.
WILDLIFE	C02 C03	(D)	Manage resources to enhance deer and sage grouse habitat.
RANGE	D01	(A)	Complete 12 new allotment plans and update 12 existing plans.
RANGE	D01	(D)	Coordinate management of the following cattle and horse allotments with adjacent BLM allotments: Mount Jackson, Rough Creek, Wildhorse, Powell Mountain, Rockland, Wichman, Larkin Lake, Huntoon, and Whiskey Flat.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 6

PRACTICE	MIH CODE	MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*	
RANGE	D01	(D)	Coordinate management of the following sheep and goat allotments with adjacent BLM allotments: Risue, Gulch Spring, Sulfur, and Pine Grove.
RANGE	D02	(A)	Complete 92,460 acres of initial range analysis and update 202,330 acres of analysis.
RANGE	D01	(D)	Coordinate livestock trailing between adjacent BLM and National Forest allotments.
RANGE	D03	(A)	Complete 450 acres of initial nonstructural improvements.
RANGE	D05	(A)	Complete 18 new strutural improvements.
RANGE	D06	(A)	Maintain the Wellington, Masonic #1, Masonic #2, and Wedertz exclosures yearly.
RANGE	D07	(D)	Encourage conversion from sheep to cattle grazing in the Sweetwater Mountains to allow for potential reintroduction of California bighorn sheep.
RANGE	D07	(D)	Manage the Powell Mountain and Montgomery Pass horse herds in accordance with territory plans. Coordinate management of the Montgomery horse herd with the BLM and the Inyo National Forest.
RANGE	D07	(D)	Allow winter cattle grazing on the Wildhorse cattle and horse allotment on the lower elevation pinyon/juniper areas.
RANGE	D07	(D)	Do not develop additional water for domestic livestock west of Alkali Lake.
RANGE	D07	(A)	Administer and manage 25 allotments, and two wild horse and burro territories.
RANGE	D07	(D)	The following direction applies to the West Walker stock driveway: (1) confine trailing to the road except for rest periods, or eliminate trailing; (2) limit trailing time to two days; and (3) move the holding corral away from live water.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 6

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RANGE	D12	(A)	Complete control on 150 acres of noxious farm weeds.
TIMBER	E04	(A)	Conduct reforestation as needed to carry out stand silvicultural prescriptions.
TIMBER	E05	(A)	Perform timber stand improvement as needed to carry out stand silvicultural prescriptions.
TIMBER	E07	(D)	Provide for a continuing supply of fuelwood (green and dead-and-down pinyon), pine nuts, and pinyon Christmas trees through commercial and personal-use programs.
WATER & SOIL	F03	(A)	Complete five acres of improvements.
WATER & SOIL	F07	(A)	Process four claims for water rights.
WATER & SOIL	F08	(A)	Monitor and/or maintain the headcut erosion control structure in Nye Canyon.
MINERALS	G05	(D)	Standard #8 under Forest-wide mineral standards and guidelines will be emphasized in areas identified as having highly sensitive resource values; e.g., the Sweetwater area. See Forest Plan maps.
SPECIAL USES	J01	(D)	The following provides management area direction for termination of use or transfer of the bomb disposal area: The bomb disposal special use currently held by the US Army is not an appropriate use of National Forest land. Use of the land for such purposes should either be terminated or the land transferred to the Department of Defense for continued operation. If use is terminated and the area remains National Forest land, then the following direction will apply: 1. It will continue to be closed to entry to the general public because of the safety hazard.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PRACTICE	MIH CODE	MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
		2. **The Army** will be responsible for performing certain tasks to the satisfaction of the Forest Service before terminating their use, including, but not limited to: A. Fencing the exterior boundary of the currently closed area, where terrain permits. B. Signing the exterior boundary of the currently closed area and advising the public that the area is closed and hazardous. C. Rehabilitation of disturbed areas by whatever means found necessary by the Forest Service, such as installation of drainage structures, seeding, and tilling of road surfaces. D. Removal of structures.
SPECIAL USES	J01 (D)	The following provides specific direction for management of electronic sites: Masonic Mountain and Desert Creek Peak - Issue no permits for other uses. Pine Grove and Sweetwater - Issue permits to new users which are compatible with existing users. Issue permits within lots shown on site maps approved March 9, 1970, and April 2, 1971. Sonora Junction - The existing users of this site are the California Highway Patrol (CHP), Caltrans, the Mono County Sheriff's Department, and the University of Nevada, Reno (UNR). The first three are joint occupancies of a CHP building and antenna support structure. The UNR use is a small seismograph located a few hundred feet from the CHP facility. Issue no permits for other users of the site unless the following conditions are met: 1. It is within the existing CHP building, compatible with and with permission from the other users.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 6

PRACTICE	MIH CODE	MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
		2. The radio coverage at Sonora Junction cannot be provided at the Sweetwater Electronic Site. The management goal is for eventual removal because coverage at the Sweetwater Electronic Site is superior to this site and should provide a good alternative for all but the seismograph user. If the existing permittees terminate their use here, the facilities will be removed in accordance with the terms of their special use permit.
		Lobdell Lake - This is a Soil Conservation Service (SCS) electronically remote reading snow measurement site (SNOTEL). Use of this site is limited to the SCS only. This site will be managed in accordance with the October 22, 1970, Memorandum of Agreement with the SCS and the supplemental agreement to it.
		Sarita Mine - The existing user of this site is UNR which maintains a small, electronically remote reading seismograph. Issue no permits for other users of the site.
FACILITIES	J01	(D) Maintain the Masonic Mountain and Desert Creek Peak electronic sites for Forest Service use only.
FACILITIES	L01	(A) Complete "Forest Development Transportation Facility Schedule."
PROTECTION	P01	(D) Maintain state of preparedness for volcanic activity in the Long Valley Caldera as outlined in the contingency plan and any future state emergency response plans.

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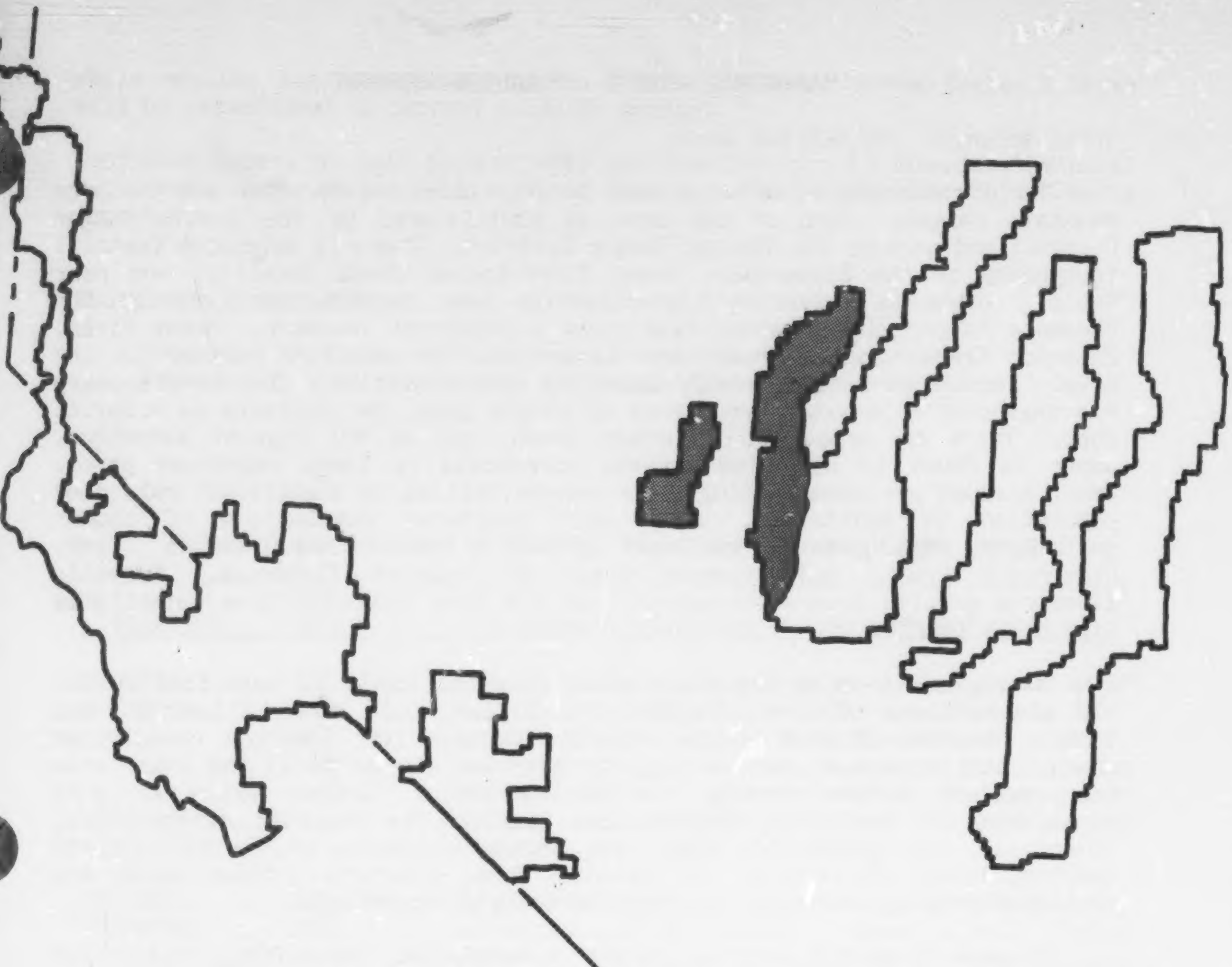
* For quantified activities, see Chapter V, Action Plans by Resource.

STANDARDS AND GUIDELINES FOR WILD AND SCENIC RIVERS
Prescriptions By Resource and Activity
(National Forest Lands within 1/4 mile of each stream)
East Walker River

Potential River Classes	Timber Management	Water Development FERC Projects	Mining	Other Development
Wild	No commercial timber removed. Cutting limited to removal incidental to primitive recreation such as trail management.	Dams and diversions prohibited. Unobtrusive removal of water for livestock and wildlife may be permitted.	Leasing not recommended. Common varieties will not be sold. Minerals activities including prospecting, development, and extraction will be discouraged. Any surface disturbance will be fully rehabilitated and damaged resources stabilized to maintain primitive shorelines and watersheds.	New developments will be located outside river area environment (generally 1/4 mile).

* Formal eligibility study to be completed by the BLM. Until the eligibility study is completed, the river will be managed as a possible wild river as stated above to provide interim protection.



Management
Area #7
Paradise Shoshone

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MANAGEMENT AREA 7 - PARADISE-SHOSHONE

Total acreage: 267,800 net acres

The Paradise-Shoshone Management Area includes the Paradise and Shoshone Mountain ranges. Part of the area is administered by the Austin Ranger District and part by the Tonopah Ranger District. There is extensive foothill topography in the Cloverdale, Reese River-Indian Creek locality, and near Gabbs. There is extensive high-elevation land on the north end of the Shoshone Range, with Shoshone Peak being a prominent landmark. Reese River, Peterson Creek, Indian Creek, and Cloverdale are important streams in the area. Vegetation varies greatly depending upon elevation. The lower country has sagebrush with extensive stands of pinyon pine, particularly on alluvial fans. There are areas with mountain brush, and at the highest elevation, aspen is found in scattered pockets surrounded by large sagebrush parks. Small meadows are common along major canyon bottoms. A significant mule deer population is maintained, along with scattered populations of chukar partridge, sage grouse, and blue grouse. Reese River, Indian Creek, Cloverdale Creek, and Peterson Creek all support fisheries. Domestic livestock grazing occurs throughout, and the area supports three established wild horse territories.

Mining has been an important activity historically as testified by the old mining towns of Ione, Berlin, Grantsville, Gold Park, Ellsworth, and Gabbs. Results of past mineral operations have left numerous unreclaimed roads, pits, trenches, etc. Mining for iron and magnesite in the Gabbs area has remained active through to the present. Further extensive gold exploration is continuing around Ione and in the Mesozoic metamorphics, limestones, and sedimentary rocks, and Teriary volcanics around the historic Jackson, Union, Cloverdale, and Paradise Peak districts. Other mines are continually being considered in light of today's technology.

An area of special interest is Berlin-Ichthyosaur State Park, inventoried by the USDI as a National Natural Landmark, under special use permit to the Nevada State Department of Parks. Other recreational uses include primitive camping and visiting "ghost towns" within the management area.

Acreage suitable for timber production: 0 acres

TOTAL MANAGEMENT AREA DIRECTION

Exploration and development of key mineral resources will be conducted in a manner that minimizes effects on range, wildlife, cultural resource, and recreation values. Reclamation plans for new operations will address repair of previously disturbed areas which are causing resource damage, and to correct public safety.

Pinyon/juniper woodlands will be managed with emphasis on the firewood program to meet a variety of resource objectives.

Key habitats will be maintained and improved through management of livestock and wild horses. The Shoshone, Ellsworth, and Paradise wild horse herds will be maintained at a level which will protect wildlife and range conditions while meeting legal requirements for herd management. Green fuelwood areas will be established to improve wildlife habitat.

Continued impact to soil productivity are expected due to extensive mineral exploration and development. Water quality should not be significantly impacted.

Management Prescription

Intensive Wildlife and Dispersed Recreation	173,400 acres
Stewardship Wildlife, Range, and Recreation	94,400 acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 7

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A01 A02 A03 A04	(A)	Conduct thematic inventory and evaluation of known historic townsites and structures. Nominate as appropriate and develop a management plan which addresses protection and interpretation needs for National Register sites as well as the management options available for sites not included in the Register.
CULTURAL RESOURCES	A02 A03	(A)	In the following areas, conduct programmatic inventory and evaluation: House Canyon, Indian Valley, Cloverdale Creek, Golden Wash, Elkhorn Canyon, Becker Canyon, and Bonita Canyon.
RECREATION	A08	(D)	Manage the following areas to meet nonmotorized recreation objectives, but allow for designated routes, snowmobiles, special uses, and valid mineral and protection activities where applicable: North Shoshone, South Shoshone, and Mount Ardivey. See Forest Plan maps.
RECREATION	A14	(D)	Strive to maintain existing visual quality for partial retention along the Cloverdale-Reese River Road, State Highway 21, Elkhorn Road corridor, and State Highway 91.
WILDLIFE	C02 C03	(A)	Maintain and enhance the Devils Gate mule deer winter/spring range to avoid adverse impacts.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 7

PRACTICE	MIH CODE	MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*	
WILDLIFE	C02 C03	(D)	Manage Indian Valley for upland game habitat.
WILDLIFE	C02 C03	(D)	Wildlife habitat improvement projects will emphasize improvement of deer winter range.
WILDLIFE	C01 C01 C03	(A)	Complete 114 structural habitat improvements and 3,767 acres of nonstructural habitat improvements.
RANGE	D01	(D)	Coordinate range management with the BLM on the South Shoshone cattle and horse allotment.
RANGE	D01	(A)	Complete update of four range allotment plans.
RANGE	D02	(A)	Update 217,900 acres of range allotment analysis.
RANGE	D03	(A)	Complete 900 acres of initial nonstructural improvements.
RANGE	D05	(A)	Complete 66 new structural improvements.
RANGE	D07	(A)	Administer and manage four allotments and three territories.
RANGE	D12	(A)	Complete control on 160 acres of noxious farm weeds.
TIMBER	E07	(D)	Coordinate any fuelwood harvest and commercial sale of pine nuts with the Yomba Tribe within previously identified traditional areas.
WATER & SOIL	F07	(A)	Process six water claims for water rights.
MINERALS	G05	(D)	Standard #8 under Forest-wide mineral standards and guidelines will be emphasized in areas identified as having highly sensitive resource values; e.g., North Shoshone, South Shoshone, and Mount Ardivey. See Forest Plan maps.
LANDS	J11	(A)	Exchange Ichthyosaur State Park with the state of Nevada.
FACILITIES	L01	(A)	Complete "Forest Development Transportation Facility Schedule."

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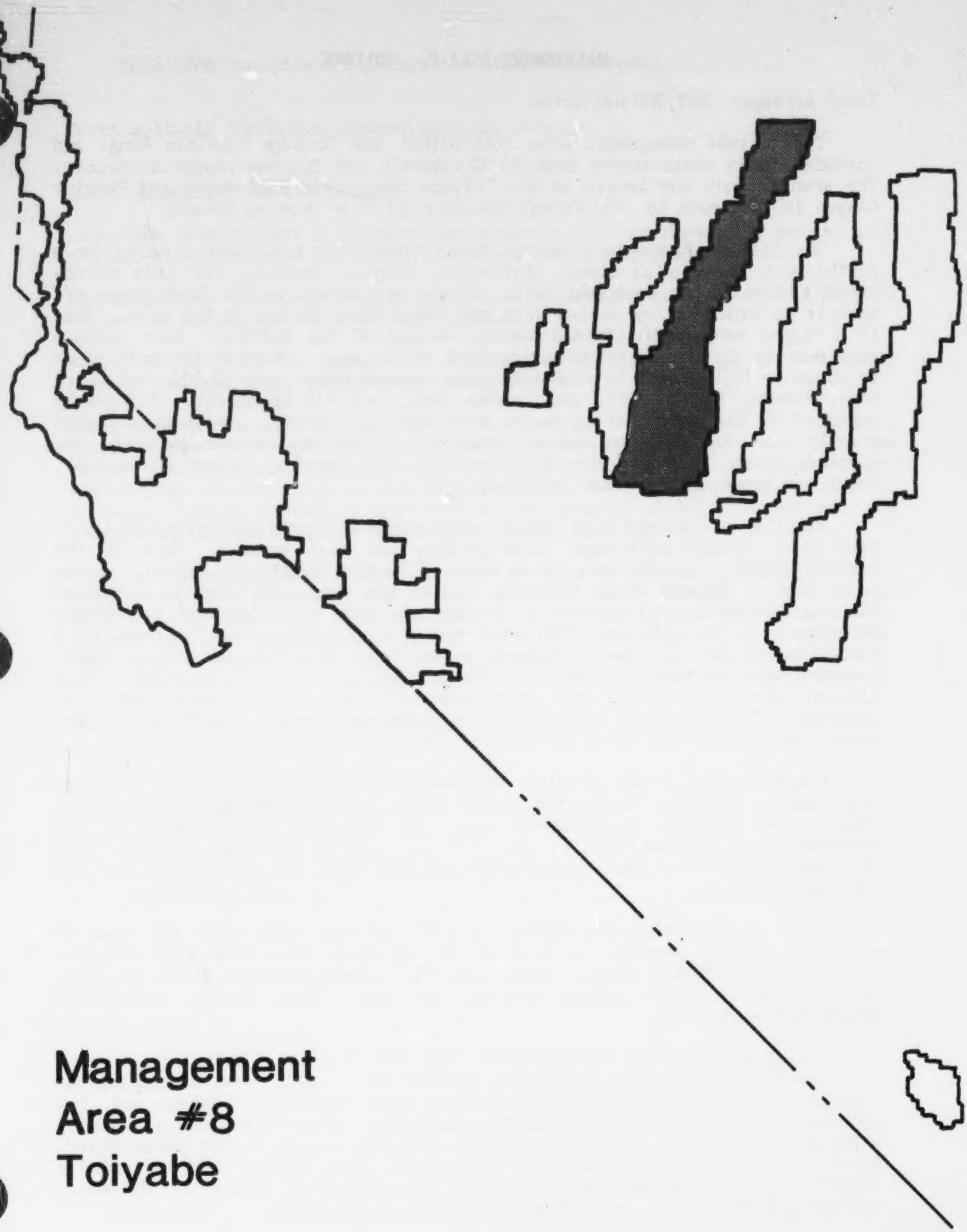
* For quantified activities, see Chapter V, Action Plans by Resource.



Management
Area #8
Toiyabe

MANAGEMENT AREA 8 - TOIYABE

Total acreage: 541,000 net acres

The Toiyabe Management Area lies within the Toiyabe Mountain Range and includes lands administered both by the Austin and Tonopah ranger districts. The area extends the length of the Toiyabe Range from Cottonwood and Peavine Canyon in the south to the Forest boundary north of Austin, Nevada.

The Toiyabe Range is a sharp, "spinelike" mountain range running on a north-south axis, with steep, descending canyons dropping off this narrow divide, both to the east and west. Slopes are steep as the land drops off sharply to Smoky Valley on the east and Reese River Valley to the west. This is a rugged range with limited access because of the terrain. Most canyons have running streams at least during part of the year. Much of the main ridge is close to 10,000 feet in elevation with several peaks over 10,000 feet. Arc Dome, French, Bunker Hill, and Toiyabe peaks are all prominent. Topography north of US Highway 50 changes, to more rolling terrain. Vegetation varies greatly and includes extensive areas of sagebrush, pinyon/juniper, and mountain brush, with pockets of limber pine and aspen at higher elevations. There are large, barren rock outcrops.

Wildlife values are high and the area supports significant populations of mule deer, chukar partridge, blue grouse, and sage grouse. Many of the streams support populations of rainbow, Lahontan cutthroat, brook, and/or brown trout. Streams along the west side of the range historically contained Lahontan cutthroat and a recovery program has been initiated with the Nevada Department of Wildlife and USDI Fish and Wildlife Service. The area is a traditional home to desert bighorn sheep from Arc Dome to Bunker Hill; however, they currently occupy only the southern portion of the range. This bighorn sheep population has been augmented and future augmentation is planned. Elk have been sighted in the management area. Livestock grazing occurs throughout, and there are two wild horse territories.

Kingston, Big Creek, Peavine, and Bob Scott campgrounds, along with San Juan Canyon, Stewart, Washington, South Twin, Reese River, and Birch Creek, receive the heaviest recreational use. Of interest are remnants of the original Pony Express Trail. An area of special interest is the Wild Granites, which has been inventoried by the USDI as a National Natural Landmark.

Other uses of the area include a municipal watershed near the town of Austin, a utility corridor north of US 50, and electronic sites near Tonopah, Austin, and on Bunker Hill. Seven important administrative sites at Reese River, Kingston, Stone Cabin, Peavine, San Juan, Smoky Valley, and Little Meadow serve the area.

Mining activity has increased over the past 10 years. Activity occurring in excessively steep areas is causing serious conflicts between developing the mineral resource and protecting downstream water quality, livestock use, and protecting the recreational/visual resource. This activity is mostly associated with areas of historic silver and gold mining in the Reese River, Birch Creek, Big Creek, Kingston, Washington, Twin Rivers, and Jett mining districts. Most mineralization occurs in silicified zones in Paleozoic sedimentary rocks that were intruded by Mesozoic granitics.

This area includes the proposed Arc Dome Wilderness.

Acres suitable for timber production: 0 acres

TOTAL MANAGEMENT AREA DIRECTION

Livestock grazing and development of minerals will be done in a manner that protects key dispersed recreation, wildlife, and fisheries resources.

Pinyon/juniper woodlands will be managed with emphasis on the fuelwood program to meet a variety of resource objectives.

Aspen habitat will be managed to maintain stand vigor and to improve stand density and age class distribution among stands.

Management of the wildlife and fisheries resources will continue with emphasis given to the recovery plan for Lahontan cutthroat trout, deer habitat, and desert bighorn sheep. Habitat improvement projects will be initiated on key deer winter ranges, such as the Toiyabe Bench, and riparian habitats will be improved through protection and habitat management. Green fuelwood will be managed to improve wildlife habitat and reduce fuel loading.

The four developed campgrounds in the management area will continue to be maintained with Kingston, Big Creek, and Bob Scott managed as fee sites. Peavine will be managed with emphasis on user clean-up and maintenance. The Toiyabe National Recreation Trail will receive maintenance emphasis at a level that will provide for a safe and enjoyable recreational experience. Some water sources along the Toiyabe Crest Trail will be protected from livestock.

The proposed Arc Dome Wilderness will be managed to meet objectives and intent of the Wilderness Act.

Management Prescription

Wilderness	94,400 Acres
Intensive Wildlife and Dispersed Recreation	441,500 Acres
Market Opportunities	5,100 Acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 8

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A03 A04	(A)	Evaluate Ophir townsite for nomination to the National Register. Provide protection as appropriate.
CULTURAL RESOURCES	A03 A04	(A)	Evaluate for nomination the prehistoric resources in vicinity of San Juan, Washington, and Cottonwood creeks which were previously investigated by the American Museum of Natural History.
CULTURAL RESOURCES	A01 A02 A03 A04	(A)	Conduct thematic inventory and evaluation of known historic townsites and structures. Nominate as appropriate and develop a management plan which addresses protection and interpretation needs for National Register sites as well as management options available for sites not included in the Register.
CULTURAL RESOURCES	A02 A03	(A)	In the following areas, conduct programmatic inventory and evaluation: Mohawk Canyon, New York Canyon, Midas Canyon, Emigrant Canyon, Box Spring, Simpson Park Canyon, Jett Canyon, Summit Canyon, North and South Twin Canyon, Wall Canyon, Cove Canyon, Upper and Lower Corral canyons, Kingston Mine, Big Creek, Knox Creek, Dry Creek, Indian Ranch Cemetery, and Arc Dome.
CULTURAL RESOURCES	A03 A04	(A)	Evaluate La Plata Mill for nomination to the National Register.
CULTURAL RESOURCES	A04	(D)	Protect the "Pony Express Trail" from any uses or activities that would impact historical values of the trail.
RECREATION	A05	(A)	Rehabilitate and/or add a water system at Big Creek, Bob Scott, and Kingston campgrounds by 1989.
RECREATION	A08	(D)	Manage the following areas to meet nonmotorized recreation objectives, but allow for designated routes, snowmobiles, special uses, and valid mineral and protection activities where applicable: Murphy-Porter, Bunker Hill, and Toiyabe Crest. See Forest Plan maps.
RECREATION	A08	(A)	Manage all developed campgrounds as fee sites and maintain to standard. However, manage Peavine at a reduced service level.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 8

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A06	(A)	Construct a trailhead facility in Kingston Canyon to serve the Toiyabe Crest Trail, by 1993.
RECREATION	A10	(A)	Construct/reconstruct 15 miles of trail by 1992.
RECREATION	A12	(D)	Recreational use along the Toiyabe Crest will be regulated if necessary to protect habitat and solitude requirements of desert bighorn sheep.
RECREATION	A14	(D)	Manage the Kingston Canyon/Big Creek Road corridor to meet visual quality objective of partial retention.
WILDLIFE	C01	(A)	Allow no construction activities on bighorn lambing areas until after June 15. Maintain and enhance other bighorn sheep habitats.
WILDLIFE	C01	(D)	Discourage activities on Point-of-Rocks and Toiyabe Bench winter ranges that will disturb mule deer in the spring and winter.
WILDLIFE	C01	(D)	Coordinate with the BLM when implementing management actions for deer winter range on Toiyabe Bench.
WILDLIFE	C01	(D)	Manage satellite elk herds in compliance with the "Central Nevada Elk Management Plan."
WILDLIFE	C02 C03	(D)	Give priority to improving habitat of Lahontan cutthroat through improved livestock management and stream habitat improvements and improve all other fishery habitat in the area primarily through improved livestock management and stream improvement projects.
WILDLIFE	C02 C03	(D)	Develop wildlife habitat improvement projects to improve deer winter ranges.
RANGE	D01	(A)	Complete three initial range allotment plans and update 13 plans.
RANGE	D02	(A)	Complete 256,230 acres of initial range allotment analysis.
RANGE	D03	(A)	Complete 4,000 acres of initial nonstructural improvements.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 8

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RANGE	D05	(A)	Complete 120 new structural improvements.
RANGE	D07	(D)	Manage livestock use in basins along the west side of the Toiyabes to reduce livestock conflicts with recreationists for available water.
RANGE	D07	(A)	Administer and manage 40 grazing allotments and two wild horse territories.
RANGE	D07	(D)	As grazing allotments become vacant, they will not be restocked as far north as Aiken Canyon on the east side.
RANGE	D07	(D)	Maintain the grazing closure to livestock in the area of Pony Canyon.
RANGE	D07	(A)	Fence the US Highway 50 right-of-way as needed to reduce public hazard from livestock grazing.
RANGE	D12	(A)	Complete control on 780 acres of noxious farm weeds.
TIMBER	E07	(D)	Coordinate any fuelwood harvest and commercial sale of pine nuts with the Yomba Tribe, within previously identified traditional areas.
WATER & SOIL	F03	(A)	Complete 47 acres of improvements.
WATER & SOIL	F07	(A)	Process 39 claims for water rights.
WATER & SOIL	F08 F09	(A)	Monitor and maintain, as needed, existing watershed structures. Evaluate needs for additional structures.
MINERALS	G05	(D)	Standard #8 under Forest-wide mineral standards and guidelines will be emphasized in areas identified as having highly sensitive resource values; e.g., Murphy-Porter, Bunker Hill, and Toiyabe Crest. See Forest Plan maps.
MINERALS	G06	(D)	Allow no surface occupancy for energy leasing within the over-steepened escarpment on the east side.
LANDS	J11	(A)	Investigate the possibility of aquiring non-National Forest lands in Kingston Canyon and Birch Creek.

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* For quantified activitied, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 8

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
FACILITIES	L01	(A)	Complete "Forest Development Transportation Facility Schedule."
FACILITIES	L05	(A)	Reconstruct 15.1 miles of arterial roads.
FACILITIES	L09	(A)	Reconstruct 2.6 miles of collector roads.
FACILITIES	L42	(D)	Restrict Bunker Hill Electronic Site to foot, horse, or helicopter access. Utilize road to the Austin Electronic Site only during summer. No snow removal will be permitted.
FACILITIES	L42	(D)	Administrative sites will be retained at Reese River, Little Meadows, San Juan, Kingston, Stone Cabin, and Smoky Valley.
FACILITIES	L13	(A)	Repave Bob Scott Campground road and spurs by 1989.

THE FOLLOWING DIRECTION, ACTIVITIES, AND PRACTICES APPLY TO THE RECOMMENDED ARC DOME WILDERNESS.

RECREATION	A08	(D)	Manage the proposed Arc Dome Wilderness to protect its wilderness values.
RECREATION	A08	(D)	The proposed Arc Dome Wilderness is closed to all motorized vehicles.
CULTURAL	A01 A02 A03 A04	(A)	Inventory and evaluate the archaeological complex on Arc Dome. Nominate as appropriate and develop a plan for management consistent with wilderness.
MINERALS	G01	(A)	Manage any mineral activity to minimize effects on wilderness characteristics, with reclamation efforts to return the area to as near a natural condition as possible.
MINERALS	G02	(A)	Conduct a validity examination on all proposed mining operations.
PROTECTION	P01	(A)	Prepare a fire management area program for the proposed Arc Dome Wilderness.

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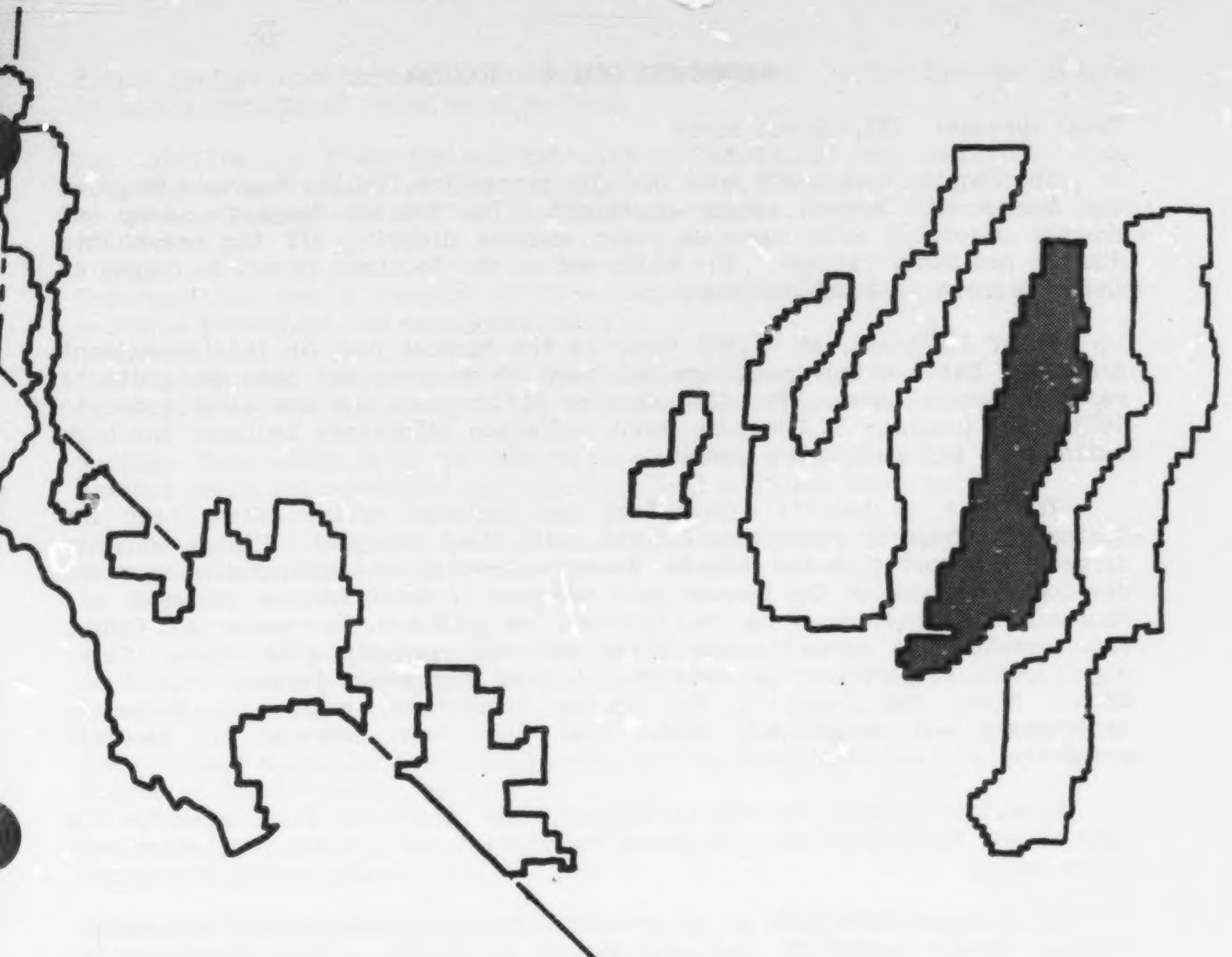
* For quantified activities, see Chapter V, Action Plans by Resource.



Management
Area #9
Toquima

MANAGEMENT AREA 9 - TOQUIMA

Total acreage: 435,400 net acres

The Toquima Management Area includes the entire Toquima Mountain Range on the Austin and Tonopah ranger districts. The Toquima Range is steep and sharply dissected with numerous rocky canyons dropping off the crest into Monitor and Smoky valleys. The north end of the Toquimas is not as rugged as the area south of Mount Jefferson.

Mount Jefferson, at 11,950 feet, is the highest peak in this management area. It has a unique ecosystem and part of the area has been designated a research natural area. The RNA contains 3,490 acres and was established in 1973. The proposed 31,000 acre Mount Jefferson Wilderness includes the high table lands adjacent to the peak.

The unit is heavily mineralized and includes active mining near the historical towns of Manhattan, Belmont, and Round Mountain. Mining activity is cyclic depending on the market. Recent activity has included discovery and development of one of the largest gold reserves in North America at Round Mountain. Discoveries of barite, uranium, and gold near Northumberland Canyon have resulted in three barite mines and one open-pit gold mine. Other significant exploration is occurring in the Jefferson Canyon, Gold Hill, Bronco Mine, and Spencer's Hot Spring localities, mainly in Paleozoic sedimentary and metamorphic rocks that have been intruded by Mesozoic granitics.

Livestock grazing occurs throughout, and the area also supports the Toquima and Northumberland wild horse territories and a burro population near Petes Spring.

Of interest are five sites or districts of archeological importance; Toquima Cave, Gatecliff Shelter, Triple T Shelter, Alta Toquima, and Northumberland. Also, the historic mining town of Jefferson City is located in the southern portion of the Toquima Range.

Vegetation ranges from sagebrush-grass through pinyon/juniper woodlands, to high elevation basins with limber pine and small patches of aspen. There are numerous small meadows and riparian areas. Deer, bighorn sheep, and sage grouse are the principal game species although blue grouse and chukar are also found. The Nevada Department of Wildlife has recently reintroduced desert bighorn sheep on Mount Jefferson, a historic bighorn sheep range. A number of streams support fisheries, and recreational use is lightly dispersed throughout this management area.

Acres suitable for timber production: 0 acres

TOTAL MANAGEMENT AREA DIRECTION

Exploration and development of mineral resources will be conducted in a manner that minimizes adverse effects on range, wildlife, cultural resource, and recreation values.

Pinyon/juniper woodlands will be managed with emphasis on the fuelwood program to meet a variety of resource objectives.

Key wildlife and fisheries habitat will be maintained and improved. Green fuelwood areas will be designed to improve wildlife and grazing habitat, and to enhance sage grouse habitat in Stoneberger Basin, Meadow Canyon, and south of Belmont.

Opportunities for a variety of dispersed recreational experiences will be provided throughout the management area.

The Forest will cooperate with the American Museum of Natural History to develop an interpretive program for Toquima Range archaeological resources.

Noxious farm weeds will be controlled. New infestations and areas where noxious weeds are spreading will receive first priority for treatment.

Compatibility of livestock production with other resources and activities will be emphasized. Conversion from cattle to sheep on Mount Jefferson will not be allowed.

Requirements of bighorn sheep will be provided for in currently occupied areas. Pioneering of bighorn sheep in other suitable habitat will be encouraged.

The proposed Mount Jefferson Wilderness will be managed to meet objectives and intent of the Wilderness Act.

Management Prescriptions

Intensive Wildlife and Dispersed Recreation	377,100 acres
Stewardship Wildlife, Range, and Recreation	27,300 acres
Wilderness	31,000 acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 9

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A01 A02 A03 A04	(A)	Conduct thematic inventory and evaluation of known historic townsites and structures. Nominate as appropriate and develop a management plan which addresses protection and interpretation needs for National Register sites as well as management options available for sites not included in the Register.
CULTURAL RESOURCES	A02 A03	(A)	In the following areas, conduct programmatic inventory and evaluation: Bald Mountain Wash, area north of South Fork drainage, Triple T Shelter, and Northumberland Canyon.
CULTURAL RESOURCES	A04	(A)	Monitor Gatecliff Shelter to ensure continued protection of remaining archaeological values.
CULTURAL RESOURCES	A01 A03 A04	(D)	Complete National Register nomination and implement management plan for Jefferson City. Implement protection/mitigation measures where appropriate.
CULTURAL RESOURCES	A04	(D)	Protect the integrity of the Belmont Cemetery and conduct management activities in a manner that protects the setting of Belmont, a National Register District.
RECREATION	A07	(D)	Maintain the Pine Creek Campground with emphasis on user self-maintenance.
RECREATION	A08	(D)	Manage the following areas to meet nonmotorized recreation objectives, but allow for designated routes, snowmobiles, special uses, and valid mineral and protection activities where applicable: Clipper Gap, Stoneberger, and Jefferson. See Forest Plan maps.
WILDLIFE	C02 C03	(A)	Enhance sage grouse habitat in Stoneberger and Meadow Canyon.
WILDLIFE	C02 C03	(D)	Wildlife habitat improvement projects will emphasize improvement of deer winter range.
WILDLIFE	C01 C02 C03	(A)	Enhance fishery habitat primarily through improved livestock management and habitat improvement projects.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 9

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RANGE	D01	(A)	Complete four new range allotment plans and update ten existing plans.
RANGE	D01	(D)	Allow no grazing in Mount Jefferson RNA.
RANGE	D02	(A)	Complete 86,980 acres of initial range allotment analysis.
RANGE	D03	(A)	Complete 4,100 acres of initial nonstructural improvements.
RANGE	D04	(A)	Complete 1,500 acres of nonstructural improvement maintenance.
RANGE	D05	(A)	Complete 36 new structural improvements.
RANGE	D07	(A)	Administer and manage nine grazing allotments and three wild horse territories.
RANGE	D12	(A)	Complete control on 100 acres of noxious farm weeds.
WATER & SOIL	F03	(A)	Complete 26 acres of improvement.
WATER & SOIL	F07	(A)	Process 32 claims for water rights.
WATER & SOIL	F08 F09	(A)	Monitor and repair, as needed, existing watershed structures. Evaluate needs for additional structures.
MINERALS	G05	(D)	Standard #8 under Forest-wide mineral standards and guidelines will be emphasized in areas identified as having highly sensitve resource values; e.g., Clipper Gap, Stoneberger, and Jefferson. See Forest Plan maps.
LANDS	J04	(A)	Withdraw Mount Jefferson RNA from mineral entry.
FACILITIES	L01	(A)	Complete "Forest Development Transportation Facility Schedule."
FACILITIES	L42	(D)	Administrative sites will be retained at Meadow Canyon and Stoneberger/Corral Canyon.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 9

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
			PROBABLE ACTIVITIES FOR THE SECOND DECADE
FACILITIES	L05	(A)	Reconstruct 7.9 miles of arterial roads.

THE FOLLOWING DIRECTION, ACTIVITIES, AND PRACTICES APPLY TO THE RECOMMENDED MOUNT JEFFERSON WILDERNESS:

RECREATION	A08	(D)	Manage the proposed Mount Jefferson Wilderness to meet a recreation objective of primitive and semi-primitive nonmotorized uses.
CULTURAL RESOURCES	A03	(A)	Complete National Register nomination for the Alta Toquima Archeological District and implement necessary protection measures. In a manner consistent with wilderness values, provide stabilization measures, if necessary, to protect site integrity. Withdraw the area from mineral entry.
RESEARCH		(D)	Manage and protect the Mount Jefferson RNA to meet RNA prescribed objectives.
MINERALS	G01	(D)	Manage any mineral activity to minimize effects on wilderness characteristics, with reclamation efforts to return the area to as near a natural condition as possible.
MINERALS	G02	(A)	Conduct a validity examination on all proposed mining operations.
PROTECTION	P01	(D)	Prepare a fire management area program.

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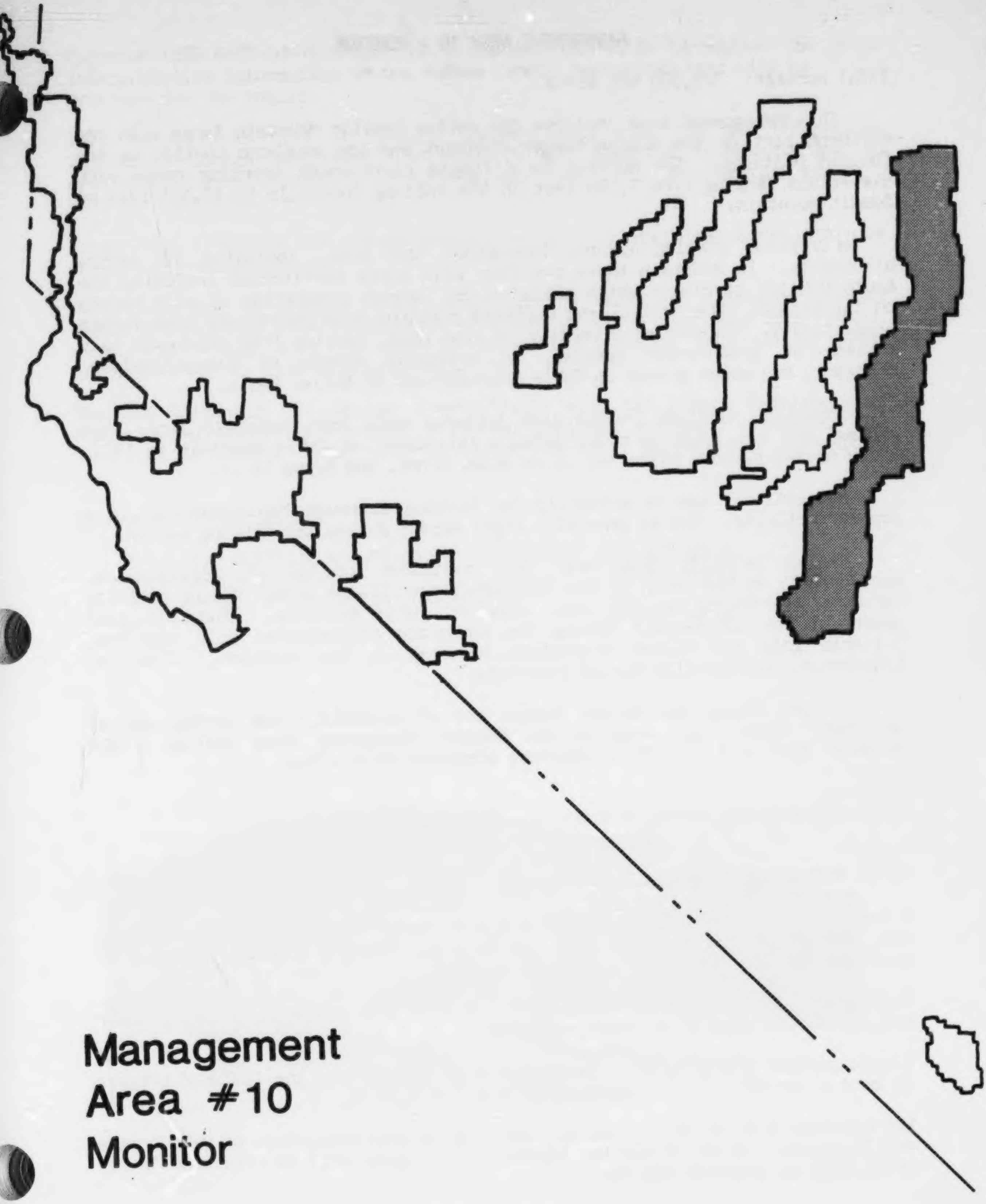
* For quantified activities, see Chapter V, Action Plans by Resource.



Management Area #10 Monitor

MANAGEMENT AREA 10 - MONITOR

Total acreage: 728,500 net acres

This management area includes the entire Monitor Mountain Range with the northern part on the Austin Ranger District and the southern portion on the Tonopah District. The Monitor is a rugged north-south trending range with elevations varying from 7,500 feet in the rolling foothills to 10,461 feet on Summit Mountain.

Livestock grazing occurs throughout the area, including 15 cattle allotments. In addition there are four wild horse territories including the South Monitor territory which contains the largest population of wild horses on the Forest. The central and northern portions have relatively high forage productivity. Vegetative diversity is also good, varying from sagebrush to a variety of grass/brush species, to extensive stands of pinyon/juniper, mahogany, and aspen groves on Table Mountain and in Butler Basin.

Important wildlife in the area includes mule deer, mountain lion, sage grouse, and elk. Elk were sucessfully introduced on Table Mountain in 1979. A few creeks support fisheries of rainbow, brook, and brown trout.

Recreational use is primarily for hunting although "rockhounding" is a popular activity. Use is generally light except during the hunting season.

Mining activity has been and continues to be of significance, particularly to the south in the Hannapah-Silver Glance area. Mining activity is also increasing on the east side of Table Mountain. There is good potential for large-scale mining for low-grade disseminated gold deposits. Historic gold and silver production occurred in the Hannapah, Ellendale, Longstreet, and Danville mining districts.

Georges Canyon and McCann Canyon are of scientific and archaeological interest. Other land uses in the Monitor Management Area include a BLM repeater site, and five Forest Service administrative sites.

Acres suitable for timber production: 0 acres

TOTAL MANAGEMENT AREA DIRECTION

A healthy, diverse wildlife habitat will be provided with emphasis on deer, elk, and upland birds, while also emphasizing livestock grazing. Management will provide for requirements of wild horses.

Exploration and development of mineral resources will be conducted in a manner that minimizes effects on other resources.

Pinyon/juniper woodlands will be managed with emphasis on the fuelwood program to meet a variety of resource objectives.

Key habitats will be maintained and improved through management of wild horses and livestock. Wildlife habitat improvement projects will be conducted in key areas such as riparian habitat.

Opportunities will be provided for dispersed recreation throughout the unit. Interpretative information on the McCann Canyon Geological Area will be provided for the public.

Wild horse herds will be managed cooperatively with the BLM to provide sufficient forage and water for wildlife and domestic livestock, and to maintain soil and vegetation in satisfactory condition. Noxious farm weeds will be controlled.

Forage for livestock and forage production will be maximized by maintaining intensive grazing systems.

Permittees may be granted their proportionate share of increased grazing capacity resulting from development programs to which they have contributed. Additional forage will be used to solve overstocking problems on other allotments and to meet wildlife needs.

The elk herd will be managed cooperatively with the Nevada Department of Wildlife and the BLM to provide a recreational and aesthetic resource. The herd will be managed to minimize impacts on the local agricultural community.

Management Prescription

Intensive Wildlife and Dispersed Recreation	496,900 Acres
Market Opportunities	54,000 Acres
Wild Horses, Wildlife, and Dispersed Recreation	177,600 Acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 10

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A02 A03 A04	(A)	Inventory and evaluate, and as appropriate, nominate the following cultural resources: Blackburn Administrative Site, charcoal kilns, wattle-and-daub structures in north Monitors, Cottonwood Administrative Site, and Savory Administrative Site.
CULTURAL RESOURCES	A02 A03	(A)	Conduct programatic inventory and evaluation in the following areas: McCann Canyon, Savory Creek, Table Mountain, Hannapah, Georges Canyon, Clear Creek, Morgan Basin, Butler Basin, and House Canyon.
RECREATION	A08	(D)	Manage the following areas to meet nonmotorized recreation objectives, but allow for designated routes, snowmobiles, special uses, and valid mineral and protection activities where applicable: Dagget, Reynolds, Bald Mountain, Horse Heaven-Butler Basin, Morgan Basin, Table Mountain, Horse Canyon, McCann, and Hunts. See Forest Plan maps.
RECREATION	A07 A08	(D)	The following management direction applies to the McCann Canyon Geological Area: (1) construct no camping and parking facilities; (2) develop a self-guided trail; and (3) allow no harvesting of forest products where conflicts could occur.
RECREATION	A10 A11	(A)	Identify and locate on the ground a trail network from Barley Creek to the north, approximately 80 miles, by 1989.
WILDLIFE	C01	(A)	Improve sage grouse habitat throughout the unit with emphasis on Table Mountain, Charnac Basin, Butler Basin, Willow Creek, Kelly Creek, and Allison Creek drainages.
WILDLIFE	C01	(D)	Cooperatively manage elk with the Nevada Department of Wildlife and the BLM in accordance with the "Monitor Elk Management Plan."
WILDLIFE	C01	(D)	In the south Monitors: (1) guzzlers constructed for wildlife will be designed to be protected from damage by wild horses and domestic livestock; and (2) fences will allow for movement of big game animals.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 10

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
WILDLIFE	C01 C02 C03	(A)	Enhance fishery habitat primarily through improvement structures and improved livestock management.
WILDLIFE	C01	(A)	Implement prescriptions to reestablish aspen on suitable sites on Table Mountain.
WILDLIFE	C02 C03	(D)	Wildlife habitat improvement projects will emphasize improvement of deer winter range.
RANGE	D01	(A)	Complete three new range allotment plans and update eight existing allotment plans.
RANGE	D01	(A)	Design the grazing system in Barley Creek to minimize conflicts between grazing and recreation.
RANGE	D02	(A)	Complete 52,000 acreas of initial range allotment analysis and 129,000 acres of updated analysis.
RANGE	D03	(A)	Complete 1,700 acres of nonstructural improvements, most of which will include prescribed burning.
RANGE	D04	(A)	Complete 3,000 acres of initial nonstructural improvements.
RANGE	D05	(A)	Complete 114 new structural range improvements.
RANGE	D07	(A)	Administer and manage 12 grazing allotments, and four wild horse territories.
RANGE	D07	(D)	Resolve conflicts between cattle and horses on South Monitor Wild Horse Territory.
RANGE	D07	(D)	Eliminate head cutting in meadows through management of livestock and/or installation of head cut structures.
RANGE	D12	(A)	Complete control on 600 acres of noxious farm weeds.
WATER & SOIL	F03	(A)	Complete 68 acres of watershed improvement.
WATER & SOIL	F03	(A)	Rehabilitate roads that exist in the vehicle closure area on Table Mountain. Continue implementation of the Table Mountain meadow restoration plan.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 10

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
WATER & SOIL	F07	(A)	Process 46 water claims.
WATER & SOIL	F08 F09	(A)	Monitor and repair, as needed, existing watershed structures. Evaluate needs for additional structures.
MINERALS	G05	(D)	Standard #8 under Forest-wide mineral standards and guidelines will be emphasized in areas identified as having highly sensitive resource values; e.g., Dagget, Reynolds, Bald Mountain, Horse Heaven-Butler Basin, Morgan Basin, Table Mountain, Horse Canyon, McCann, and Hunts. See Forest Plan maps.
MINERALS	G01	(D)	Coordinate activities that may conflict with mineral development in the Hannapah-Silver Glance Mining District.
LANDS	J01	(A)	Maintain the Bald Mountain Electronic Site. Permit no electronic sites on Table Mountain.
FACILITIES	L01	(A)	Complete "Forest Development Transportation Facility Schedule."
FACILITIES	L01	(A)	Reconstruct the White Sage, Dobbin Summit, Horse Canyon, and Charnac Basin roads to improve public safety and to reduce resource damage.
FACILITIES	L42	(D)	Abandon Cottonwood and Savory administrative sites. Remove existing structures. Retain the historical structure at the Blackburn Administrative Site.

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* For quantified activities, see Chapter V, Action Plans by Resource.

STANDARDS AND GUIDELINES FOR THE MANAGEMENT OF THE MONITOR ELK HERD

Management Methods

Management methods can be divided into two general categories: habitat management methods and population management methods. Since federal agencies have responsibility for management of the habitat, they will take the lead in habitat management. The Nevada Department of Wildlife has responsibility for population management. The Forest Service will provide input regarding desired population levels.

Population Management Methods

1. Population numbers, composition, and trend will be monitored and documented through use of annual or biannual aerial surveys using a helicopter. These flights will be scheduled prior to antler drop and in most years late enough to be able to accurately assess probable herd recruitment. Flights conducted immediately after new snowfall provide optimum conditions for locating and observing elk groups.

   Due to limitations on helicopter flight time and the potential for bad weather, fixed-wing flights may be used to presurvey the herd unit when snow conditions are optimum . Location of use areas by sign and/or animal sighting could reduce the time in "search mode" and make the best use of limited helicopter flight time during regularly scheduled surveys.

   Other seasonal-use areas will be determined through documentation of sightings. During the breeding season, elk bugling techniques may be used to locate elk groups. Areas of suspected but undocumented elk use will be visited. These surveys will be conducted as a joint effort by the cooperators in this plan.

   Herd performance information gathered throughout the year, such as herd composition data and estimated reproduction and mortality rates, will be used to estimate population numbers. Computer population modeling may be used to better understand and demonstrate herd performance.

2. The above-mentioned data gathering methods will be used when and where appropriate to document and monitor elk use incidental to resident herd seasonal-use patterns. They will also be used to obtain information for areas of possible satellite herd establishment.

3. The Monitor elk herd, by agreement, will be an intensively managed and controlled herd; one which will not replace other animal use (e.g., domestic livestock or indigenous wildlife). Population control will be achieved through harvest. Desired levels and composition of harvest will be determined on an annual basis through the Nevada Department of Wildlife's trophy season-setting process. For the next three years, beginning in 1986, harvest will be set at a level which will limit the elk herd to 300 animals or less. This

number includes all elk (cows, calves, and bulls) within the Monitor Range and any established satellite herds. The types and dates of hunting seasons will be adjusted annually, based on herd and harvest management objectives. These hunts may include harvest of bulls, cows, or calves as appropriate.

If a satellite herd becomes established and its impacts become unacceptable, management strategies outlined for the Monitor herd, or other strategies deemed necessary to meet agency objectives, will be applied to achieve control or removal of the satellite group.

4. In keeping with the Nevada Department of Wildlife's policy plan for the management of Nevada's wildlife, management will be aimed towards providing a quality hunting experience and maintaining sufficiently high bull ratios and older age class bulls in the population to promote high hunter selectivity with reasonably high hunter success rates.

5. The herd will be managed so that it is compatible with the livestock grazing systems.

Habitat Management Methods

A primary objective is delineation of seasonal elk ranges and key management areas within those ranges. Initial efforts to accomplish this will be centered on the use-intensity mapping concept outlined in both Forest Service Handbook 2209.21 and the Nevada Rangeland Monitoring Handbook. Use-intensity mapping is a graphic depiction of intensity and distribution of use by grazing animals over an entire management area, such as an elk summer range. Use-intensity is determined through observations of grazing use and pellet counts. Because this system results in a general indication of grazing utilization, specific sites will be subject to grazing impact analysis studies to further refine use levels and plant species utilized (see FSH 2209.21 for methodology). Pellet and dropping counts will be important in separating elk and livestock use.

Preliminary use-intensity maps will be completed annually by the Forest and the BLM, as funding is available, until the end of 1987. At that time, information will be evaluated and key management areas will be selected by interagency committee as sites for long term studies to measure range condition and trend. Where possible, existing range studies will be used to provide this information. New studies will be established by the land management agency with responsibility for the area, with assistance from the Nevada Department of Wildlife as available. A monitoring schedule will be developed and adjusted as new studies are established.

Evaluation and Review

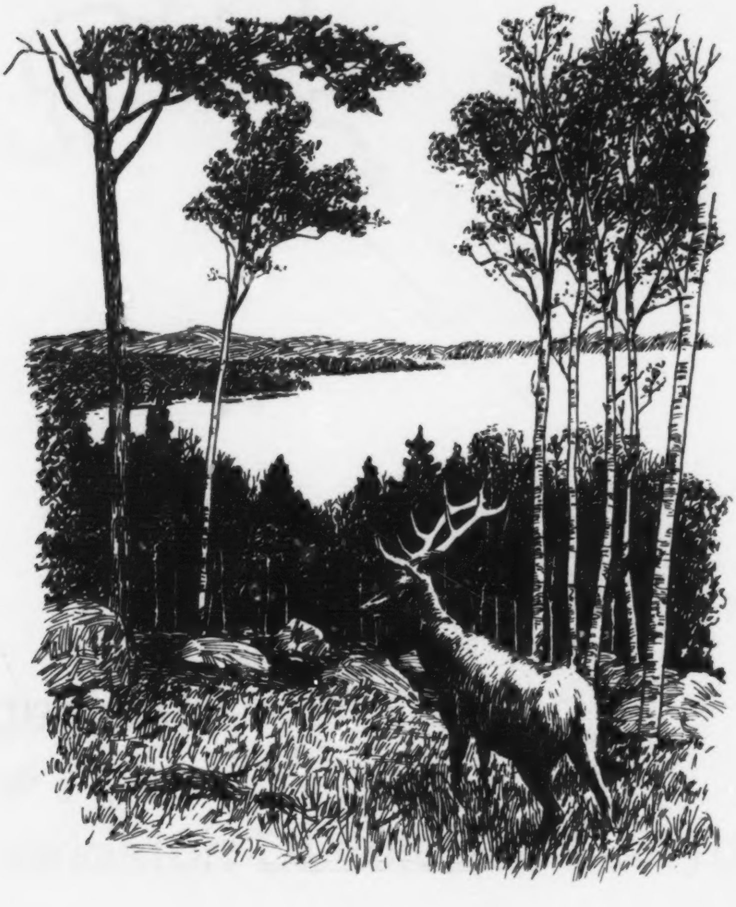
This elk management plan will be reviewed and updated in 1988 by an interagency committee. At that time, decisions regarding adjustments in population numbers will be made using all available study results. Adjustments will be accomplished through increased or decreased harvest levels. Any new population increment will be held for a minimum three-year period, at which time a new evaluation will be made.

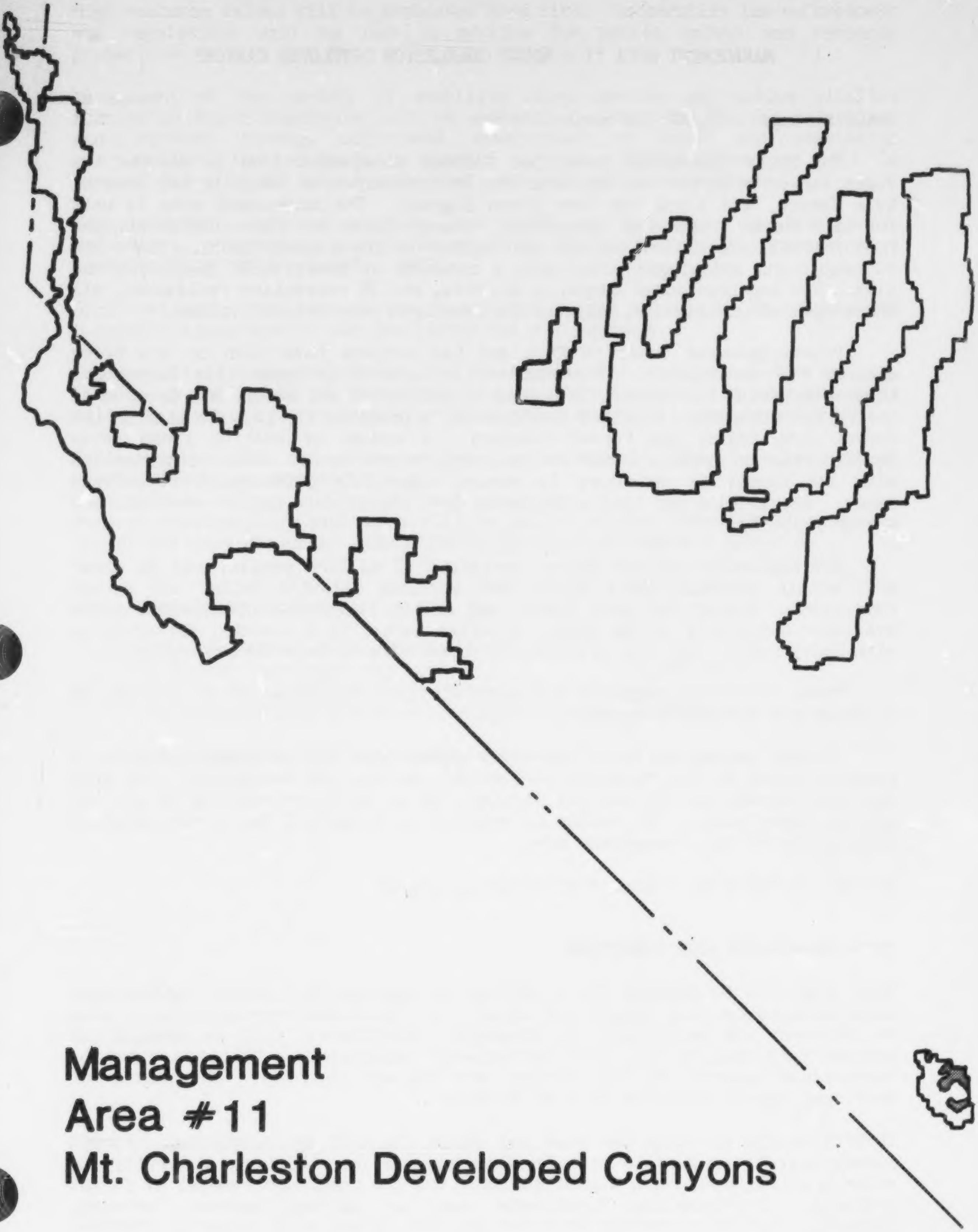
Public involvement will be solicited for that evaluation. If management strategies have been shown ineffective in achieving goals, then new strategies and methods may be implemented. Prior to that review, the following actions will be taken:

The Nevada Department of Wildlife will provide the Forest Service and the BLM with its annual condition and trend report containing the following data: recent herd composition; recent harvest figures; actions taken for habitat condition and rehabilitation; what actions were implemented for herd planning and results of those actions. The agencies will have the opportunity to provide input to that report.

The Forest Service and the BLM will assemble study data annually for inclusion in this plan. Results will be made available to all interested parties.

An interagency committee will meet annually to discuss the plan and evaluate the management methods. This meeting can be arranged to coincide with the annual spring interagency meetings.





Management
Area #11
Mt. Charleston Developed Canyons

MANAGEMENT AREA 11 - MOUNT CHARLESTON DEVELOPED CANYONS

Total acreage: 15,500 net acres

The Mount Charleston Developed Canyons Management Area is on the Las Vegas Ranger District and includes the intensively-used lands in Lee Canyon, Kyle Canyon, and along the Deer Creek Highway. The management area is used for both summer and winter recreation. Steep slopes and sheer cliffs confine most recreational activities and development to the canyon floors. There are 10 campground and picnic sites with a capacity of about 2,500 people at one time. Two organizational camps, a ski area, and 25 recreation residences, all under special use permits, enhance the developed recreational values.

Privately-owned lands in Kyle and Lee canyons have been or are being planned for development. A restaurant is located in upper Kyle Canyon but other commercial businesses, including a restaurant and motel, are located at the Forest boundary. A resort development is proposed for private land in Lee Canyon just inside the Forest boundary. A number of utility lines serve developments on both private and National Forest lands. Close coordination with the county is necessary to ensure compatible development on private lands. Acquisition and land adjustments that consolidate public ownership are a high priority.

The population of Las Vegas, exceeding .5 million people, has no other area within one-half day's drive that provides climatic relief and forest recreation. Demand for both summer and winter recreation often exceeds the available capability of the area. Wildfire hazard is a concern, particularly with heavy public use, dry climate, and increasing private land development.

Mount Charleston supports a diverse wildlife population of 52 species, 48 of which are considered endemic.

Minimal mining activity has taken place here and no mineralization is known to occur in the Paleozoic carbonates, shales, and sandstones. The area has been subject to oil and gas leasing, but no activity relating to oil and gas has taken place. The reader is referred to Appendix G for a more detailed description of this management area.

Acreage suitable for timber production: 0 acres

TOTAL MANAGEMENT AREA DIRECTION

This area will be managed for a variety of high quality, public recreational opportunities for both summer and winter. All developed recreation sites will be improved and maintained to standard. Development will be managed to provide both quality and safe recreational experiences. Public use may be constrained because of low parking and highway capacity. The number of developed recreation sites will be increased.

Thrifty stands of ponderosa pine and white fir will be maintained. Forest stands will be managed to provide stand and species health and diversity, to enhance wildlife habitat, visual quality, and for continued removal of forest products. Silvicultural treatments such as salvage harvest, pruning, thinning, and reforestation will be applied, along with selected chemical treatment of individual trees.

High resource values will be protected from fire. Cooperative law enforcement and regulations will be used to provide for public safety and resource protection.

Management of the variety of sensitive plant species and unique wildlife species on Mount Charleston will be emphasized. Habitats will be maintained and improved through additional development of water and vegetation manipulation, with emphasis on endemic species. Forage resources will be managed for wildlife and noncommercial, recreational livestock use.

Any management activities that occur will be responsive to the goals, objectives, strategies, and policies of the "Mount Charleston Comprehensive Land Use Plan" (Clark County, 1982).

Organizational sites and recreation residences will be managed to enhance the aesthetic appearance of the facilities and surroundings.

Improvement of highways serving the management area will be coordinated with the Nevada Department of Transportation and Clark County. The administrative sites in Lee and Kyle canyons will be upgraded at the existing locations.

Soil erosion rate and water quality (groundwater) will be maintained at current levels or enhanced.

Mineral exploration/development will be guided by the "Sensitive Area Access and Reclamation Measures" identified in Forest-wide standard Number 8.

Management Prescriptions

Intensive Dispersed Recreation, Wildlife and Current Developed Recreation	9,100 acres
Intensive Wildlife and Dispersed Recreation	6,300 acres
Market Opportunities and Developed Recreation	100 acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 11

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
CULTURAL RESOURCES	A03 A04	(A)	Inventory and evaluate Bonanza Sawmill site and Clark Canyon Sawmill/Cabin sites for historical and interpretive purposes, National Register nomination, and needed protection measures.
CULTURAL RESOURCES	A03 A04	(A)	Evaluate interpretive possibilities for the Kyle Sawmill historical site.
RECREATION	A01	(A)	Provide added recreational interest and diversions with planned trails, interpretive walks, and informational signing by 1995.
RECREATION	A01	(A)	Implement informational and interpretative programs for the Kyle Ranger Station by 1992.
RECREATION	A01	(D)	Intensify winter recreation management in cooperation with other agencies for patrolling, education, and law enforcement in areas of general snowplay.
RECREATION	A01	(D)	Construct no major public developments in Kyle and Lee canyons or Deer Creek without designed capacities for sewage, water supply, vehicle parking, and traffic flow.
RECREATION	A06	(A)	Construct Tres Piedres Picnic Ground at junction of Deer Creek and Lee Canyon highways by 1992.
RECREATION	A05	(A)	Reconstruct Kyle and Hilltop campgrounds by 1989.
RECREATION	A06	(A)	Construct trailhead facilities at Harris Saddle, Mary Jane Falls, and Camp Bonanza by 1991.
RECREATION	A01	(D)	Continue to manage Mack's Canyon for dispersed recreation use.
RECREATION	A07	(D)	Manage developed sites as fee sites and to standard.
RECREATION	A07	(A)	Provide for small group camping at McWilliams Campground by 1993.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 11

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A08	(A)	Close Foxtail Canyon, Old Mill, and the Meadows to snowmobiles and all-terrain vehicles or cycles by 1986.
RECREATION	A08	(D)	Restrict all motorized vehicles, except over-snow vehicles, to designated routes.
RECREATION	A08	(D)	Utilize management methods to divert public to other areas on days when site capacity is exceeded.
RECREATION	A08	(D)	Utilize planned parking along highways and within sites as a control factor to limit both summer and winter use to a designated capacity.
RECREATION	A08	(D)	Continue a "Take-it-Home" public campaign to manage solid waste.
RECREATION	A08	(D)	Discourage winter snowplay in Kyle Canyon. Provide winter signing that directs tubers and sledders to safe areas by 1986.
RECREATION	A11	(A)	Complete the North Loop to the Lee Canyon segment of the Spring Mountain Trail.
RECREATION	A10 A11	(A)	Construct and upgrade an interconnecting trail system to a consistent standard, including trail condition, signing, and level of maintenance. Emphasis will be placed on: - Mary Jane Falls Trail, one mile by 1987 - Lateral access trails to the Crest Trail, 3.5 miles by 1995 - North Loop to Bristlecone Trail, two miles by 1989 - Lower South Loop Trail, 2.5 miles by 1991
RECREATION	A12	(D)	Emphasize management and maintenance of the Mount Charleston National Recreation Trail.
RECREATION	A12	(A)	Provide high-quality interpretive trails at Robbers Roost, Desert View, and Bristlecone.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 11

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A12	(A)	Appropriately sign trail heads to inform users of restrictions and requirements.
WILDLIFE	C01	(A)	Monitor the augmentation of elk and existing deer populations in cooperation with the Nevada Department of Wildlife and the BLM. Participate in revising the management plan for the herds.
WILDLIFE	C03	(A)	Enhance wildlife habitat by better water distribution and vegetation manipulation. Protect undeveloped water sources for wildlife needs. Provide water for wildlife at all developed water systems. Maintain water development facilities to protect investments.
RANGE	D07	(D)	Continue efforts to prevent unauthorized livestock from entering the National Forest and take civil or criminal action when appropriate. Continue exclusion of wild horses and burros.
TIMBER	E03	(A)	Develop a vegetation management schedule for accomplishment of timber treatment objectives.
TIMBER	E07	(A)	Harvest decadent, diseased, or insect infested timber where other resource values can be protected, and remove trees posing a safety hazard.
SOIL	F02	(A)	Control erosion through self-containment and channel improvements. Continue emphasis on ski area, the county camp, and the Meadows. Avoid occupancy or soil disturbing activities near major drainage channels. Strictly control use of heavy equipment in all areas.
WATERSHED	F09	(A)	Protect surface and underground water quality. Implement and continue US Geological Survey groundwater monitoring program.
WATERSHED	F07	(A)	Continue to obtain and protect water rights for public benefits. Protest other water filings conflicting with existing and planned Forest needs.
SPECIAL USES	J01	(A)	Maintain Kyle Canyon weather station in present location for continuity of records.

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* for quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 11

PRACTICE	MIH CODE	MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*	
SPECIAL USES	J01	(D)	Development of the Lee Canyon Ski Area is to be guided by an approved master plan. For the Lee Canyon Ski Area: (1) cooperate with the Nevada Department of Transportation and the ski area to utilize maximum parking on existing pavement; (2) commercial services will be limited, incidental, and subordinate to the primary purpose of winter recreational skiing; and (3) ski area development and lift construction will not be extended for scenic ride opportunities and will not terminate on the higher ridge lines.
SPECIAL USES	J01	(A)	Development in organizational camps is guided by approved master plans. The following direction applies to the management and use of organization camps: (1) correct current erosion loss at county camp by on-site retention of runoff; (2) allow for county camp expansion for tent camping and day-use activities, and confine overnight structures to existing site; and (3) evaluate feasibility of an interconnecting road between organization camps.
SPECIAL USES	J01	(D)	Issue no new recreation residence permits for vacant or relinquished lots. Limit additional capital investments or structural expansions to existing residences. Continue to limit permanent, year-around residency.
SPECIAL USES	J01	(D)	Maximize public availability of limited Forest acreage by limiting new structural special uses, preventing unauthorized uses, and minimizing visual and environmental impacts of existing uses.
SPECIAL USES	J01	(A)	Relocate the Kyle-to-Lee telephone line to the proposed powerline corridor when the Lee Canyon powerline is constructed.
SPECIAL USES	J01	(D)	Cooperate with Clark County in unified water delivery and sewage systems that will service both public and private development.
SPECIAL USES	J01	(A)	Enter into agreements for operation and maintenance of the Kyle Summer Home Group, and Lee Canyon and Deer Creek water systems.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 11

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
LANDS	J05	(D)	Cooperate with Clark County to protect undeveloped status of county land in the Meadows.
LANDS	J06	(A)	Survey and post, by priority, those landlines most likely to have encroachment.
LANDS	J15	(D)	Place a high priority on a land purchase and exchange program for private lands. National Forest System lands will remain in federal ownership.
LANDS	J15	(A)	Implement on acquired lands the necessary fire protection and public-use management sufficient to protect existing resource values.
PLANNING	J22	(D)	Cooperate with appropriate public agencies, county government, and private landowners to provide ordinances or controls for signing and architecture.
PLANNING	J22	(A)	Work closely with Clark County, state agencies, and private owners on long-range planning for solid waste, sewage, fire protection, erosion control, water systems, ground water quality and aesthetics.
FACILITIES	L01	(D)	Complete Forest Development Transportation Facility Schedule.
FACILITIES	L01	(D)	Cooperate with the BLM in recognizing potential recreation sites and potential transportation routes which can enhance accessibility for public recreation.
FACILITIES	L01	(D)	Evaluate alternatives to resolving traffic congestion at dead-end of Kyle Canyon Highway by constructing a one-way loop.
FACILITIES	L01	(D)	Cooperate with Clark County, the BLM, and the Nevada Department of Transportation on location and design of turnouts, widening for viewpoints, signing, roadside parking, maintenance, and

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 11

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
			improvements within highway rights-of-way. Avoid improvements which simply straighten alignment or increase traffic speed or volume. Retain Kyle Canyon, Deer Creek, and Lee Canyon highways at present widths and control excessive signing.
FACILITIES	L01	(D)	Discourage borrow, sand or gravel pits, and stockpile sites within or adjacent to rights-of-way to avoid conflicts with recreation, scenic, and aesthetic values.
FACILITIES	L25	(A)	Upgrade Lee Canyon Administration Site to provide for proper management of year-around recreation. Modify Visitor Information Center at Kyle Canyon Administration Site to permit full utilization for public service.
FACILITIES	L25	(A)	Provide for subsurface collection at the source of Lee Canyon and Deer Creek water systems.
FACILITIES	L42	(A)	Evaluate effects of water utilization on underground aquifers prior to facility development.
PROTECTION	P01	(D)	Coordinate and cooperate with the Nevada Division of Forestry, the BLM, and local agencies in the prevention and suppression of wildfires to reduce protection costs and increase availability of firefighting and prevention resources.
PROTECTION	P01	(A)	Prepare incident preattack plans for Kyle, Deer Creek, and Lee canyons.
PROTECTION	P12 P13	(D)	Emphasize fuel management and prevention in Kyle and Lee canyons. Plan for fuel reduction and shaded fuel breaks around developed sites which have a high fire hazard.
PROTECTION	P01	(D)	Consider mudslide, avalanche, and flood potential in locating any new structures or facilities.
PROTECTION	P24	(D)	Continue an intensive law enforcement program which increases public safety while decreasing resource and property damage.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 11

PRACTICE	MIH CODE	MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*	
PROTECTION	P01	(A)	Prepare a fire management program based on fuel inventories that will: 1. Provide detailed prescriptions to use such tools as prescribed burning and vegetative treatment for managing fires and fuels to prevent large destructive fires. 2. Provide preattack plans for fuel types to guide control of fires that escape initial attack. 3. Identify fuel types where modified fire control standards would allow fires to burn naturally and where they may be useful in retaining ecological succession.
PROTECTION	P24	(A)	Aggressively pursue unauthorized occupancy cases. Reduce existing backlog.

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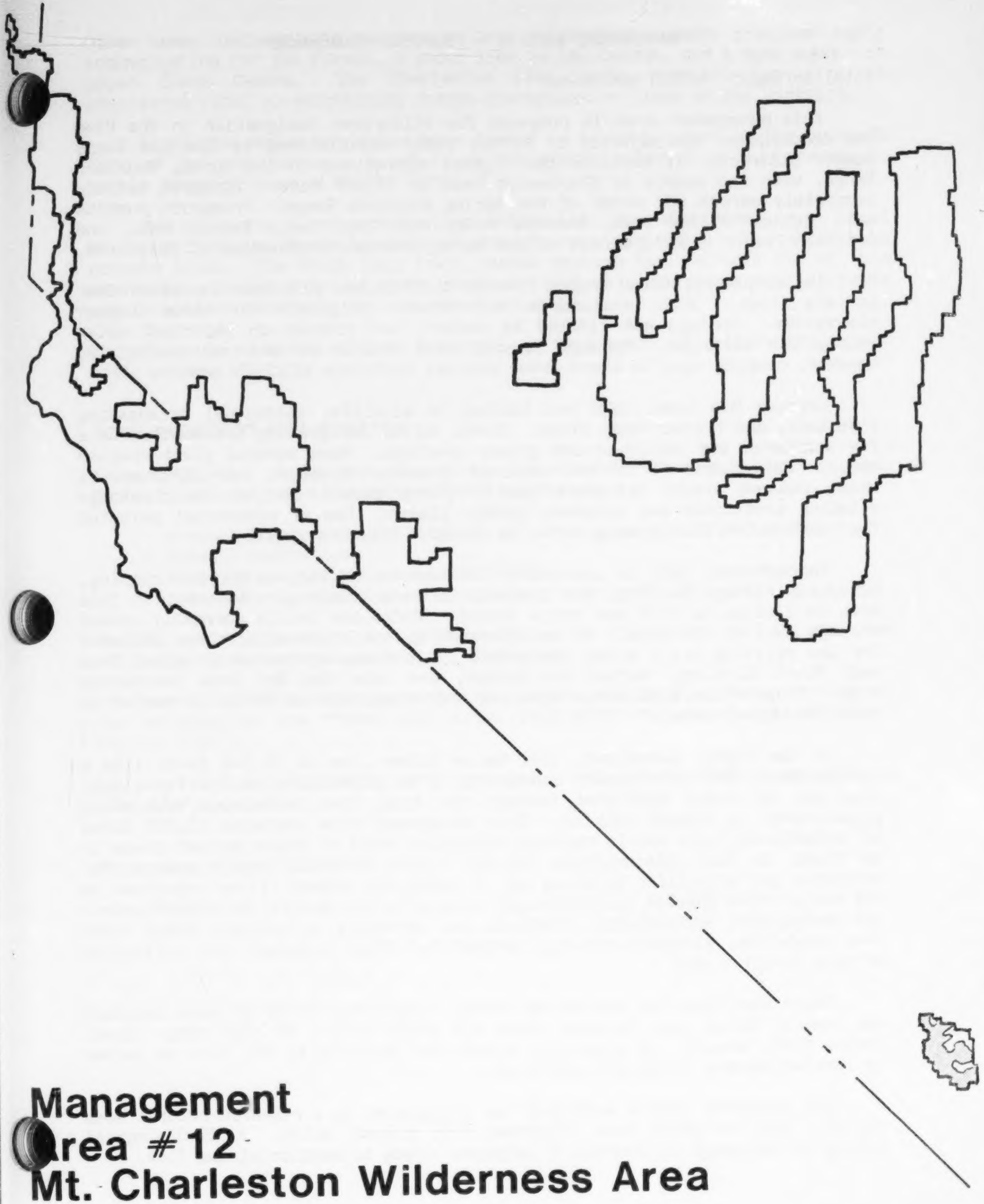
* For quantified activities, see Chapter V, Action Plans by Resource.



Management
Area #12
Mt. Charleston Wilderness Area

MANAGEMENT AREA 12 - PROPOSED WILDERNESS

Total acreage: 42,500 net acres

This management area is proposed for wilderness designation in the Plan and encompasses the majority of Forest lands administered by the Las Vegas Ranger District. It contains the highest elevations in the Spring Mountain Range, with the summit of Charleston Peak at 11,918 feet. The area extends completely across the crest of the Spring Mountain Range. Prominent summits also include Willow Peak, Bonanza Peak, McFarland Peak, Harris Peak, and Griffith Peak. Major drainage of the Spring Mountains commences in this area.

Annual precipitation ranges from 25 to 28 inches with snow depths of four to six feet. Most avalanches and floods originate in these higher elevations. Springs are limited in number, but provide an important water source for wildlife. Springs located near trails attract recreationists; however, camping next to these water sources restricts wildlife use.

Grazing has been light and limited to wildlife, occasional trespassing livestock, and recreational stock. Areas suited for grazing are limited to a few scattered and easily-eroded grassy openings. Many endemic plant species occur. Hay packed-in for recreational stock or frequent overnight use in these meadows could introduce exotic plant seed. Exotics could change existing conditions and threaten endemic plants. Use of commercial pelleted feed and restrictive grazing serve to minimize this possibility.

Recreational use is generally limited to hiking, primitive camping, horseback riding, hunting, and mountain or rock climbing. Access into this area is limited to foot and horse travel. Ridgeline trails currently extend through most of the area. An interconnecting trail system has been proposed for the existing trail along the crest. This trail system would extend from near Mount Stirling, across the Forest, and into the Red Rock Recreation Area. Cooperation with other agencies and organizations would be needed to complete this proposal.

In the higher elevations, just below timber line at 11,500 feet, lies a coniferous forest principally consisting of bristlecone pine. A few limber pine can be found scattered through the type, but herbaceous and shrub ground-cover is almost lacking. This management area contains 18,800 acres of bristlecone pine and is the most extensive stand of these ancient trees to be found in the Intermountain Region. This pine is highly valued for aesthetic and scientific purposes and is among the oldest living organisms in the world. The gnarled and grotesque stature is attractive to recreationists and photography enthusiasts. Controls are necessary to protect these trees from vandalism, firewood cutting, removal for other purposes, and collection of dead "drift wood."

There have been few man-caused fires. Lightning storms in June and July can pose a threat and isolated trees are often struck on high ridge lines. Ground fuel, however, is generally absent and opportunity for fire to spread is limited because trees are scattered.

The Carpenter Canyon watershed was designated as a research natural area in 1973, but has never been withdrawn from mineral entry. A US Geological Survey stream gauge is located in Carpenter Creek to monitor stream flow.

Other uses include a repeater on Charleston Peak, which provides radio communication for the Forest, a phone line to Lee Canyon, and a snow course in upper Clark Canyon. The Charleston Peak radio communication site is considered vital to maintaining future communication links on the district.

An unusual water chute has been formed in a rocky gorge in the southern fork of Wallace Canyon. A waterline transports water from this source to cattle troughs, located on BLM lands.

Two large tracts of private land extend into this management area. Most of the west-facing Mummy Mountain escarpment and upper slopes are within these private lands. The North Loop Trail passes through the southern tip of this ownership. Acquisition of these lands is desirable for management purposes and to protect aesthetic and watershed values.

There is no known mineral potential in this area and exploration is not anticipated.

TOTAL MANAGEMENT AREA DIRECTION

Management will meet the objectives and intent of the Wilderness Act. Emphasis will be on maintaining natural conditions to:

- protect the fragile environment and its unique plants and animals
- enhance aesthetics
- maintain quality watershed conditions
- enhance semi-primitive nonmotorized recreational opportunities

The 236 acres adjacent to the La Madre Wilderness Study Area will be protected until BLM studies and decisions are completed.

Management activities will be responsive to the goals, objectives, strategies, and policies of the "Mount Charleston Comprehensive Land Use Plan" (Clark County, 1982).

If any mineral activities are proposed, then a validity exam will be conducted.

Management Prescription

Wilderness	42,500 Acres

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 12

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
RECREATION	A01	(D)	Construct no trails in McFarland Canyon.
RECREATION	A08	(D)	Require refuse and inorganic waste to be removed by recreationists (Pack it in-Pack it out).
RECREATION	A10	(A)	Rehabilitate or stabilize abandoned trail segments.
RECREATION	A08	(A)	Relocate trails, where necessary, to minimize impacts on wildlife, meadows, and springs.
RECREATION	A10 A11	(D)	Locate or relocate trails to minimize impacts on steep slopes and to avoid proximity to water sources and meadows.
RECREATION	A10 A11	(A)	Construct and upgrade an interconnecting trail system to a consistent standard, including trail condition, signing, and level of maintenance. Emphasis will be on: - North Loop to Bristlecone Pine Trail, two miles by 1989 - Lateral access trails to the Crest Trail, six miles by 1995 - Griffith Peak Trail, six miles by 1990 - Uncompleted segments and flood damaged portions of the Crest Trail, 2.5 miles by 1992
RECREATION	A12	(A)	Sign trails and access points to inform users of restrictions and requirements by 1988.
RECREATION	A12	(D)	Emphasize management, extension, and maintenance of the Mount Charleston National Recreation Trail.
WILDERNESS	B01 P01	(A)	Prepare a wilderness management schedule which will include a schedule for fire management.
WILDLIFE	C01	(A)	Monitor augmentation of elk and existing deer populations with the Nevada Department of Wildlife and participate in revising the management plan for the herds.
WILDLIFE	C01	(A)	Evaluate feasibility of bighorn sheep augumentation.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 12

PRACTICE	MIH CODE		MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
WILDLIFE	C01	(A)	Monitor big game utilization of high elevation meadows.
WILDLIFE	C01	(A)	Evaluate Carpenter Creek for fisheries habitat. Fishery establishment will only be for research purposes, not for recreational use.
WILDLIFE	C01	(D)	Manage and protect water sources primarily for wildlife.
WILDLIFE	C03	(D)	Provide undisturbed access for wildlife by requiring overnight camping to be at least 1/8 mile away from water sources, or divert water to new sources when conflicts occur.
RANGE	D07	(D)	Prevent unauthorized livestock grazing.
RANGE	D07	(D)	Protect meadows from recreational stock grazing by requiring camping away from meadows and requiring use of pelleted feed.
WATERSHED	F07	(A)	Continue to obtain and protect water rights for public benefits. Protest other water filings which conflict with existing and planned Forest needs.
SPECIAL USES	J01	(A)	Remove the telephone line special use as soon as possible. Until removed, administer use to minimize visibility. Require hand maintenance.
LANDS	J06	(A)	Survey and post, by priority, those landlines most likely to have encroachments.
LANDS	J11	(A)	Acquire, or exchange for, undeveloped private lands within the National Forest boundary to enhance public opportunities and protect visual quality.
FACILITIES	L42	(A)	Retain Forest Service radio repeater and antennas on Mount Charleston.
PROTECTION	P01	(D)	Coordinate and cooperate with the Nevada Division of Forestry, the BLM, and local agencies in prevention and suppression of wildfires to reduce protection costs and increase availability of firefighting and prevention resources.

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* For quantified activities, see Chapter V, Action Plans by Resource.

PROPOSED AND PROBABLE MANAGEMENT PRACTICES FOR MANAGEMENT AREA 12

PRACTICE	MIH CODE	MANAGEMENT DIRECTION (D) OR ACTIVITY (A)*
PROTECTION	P24 (D)	Aggressively pursue unauthorized occupancy and use cases. Reduce existing backlog.

THE FOLLOWING DIRECTION, ACTIVITIES, AND PRACTICES APPLY TO THE NATIONAL FOREST PARCEL ADJACENT TO THE BLM LA MADRE WILDERNESS STUDY AREA:

WILDERNESS	B03 (D)	Protect wilderness values of the area until completion of the BLM studies and a final recommendation.

V. IMPLEMENTATION

CHAPTER V

IMPLEMENTATION

This Forest Plan provides long-range management direction for the Toiyabe National Forest.

As soon as practicable after the Plan is approved, the Forest Supervisor will ensure that all outstanding and future uses which affect National Forest System lands are consistent with this Plan. This direction is subject to valid existing rights. Management direction contained in the Plan will be used in analyzing proposals by prospective Forest users. All permits, contracts, and other instruments for occupancy and use of the Toiyabe must be consistent with management requirements in both the Forest and Management Area Direction sections. This is required by 16 USC 1604(i) and 36 CFR 219.10(e).

Subsequent administrative activities affecting the Toiyabe, including budget proposals, shall be based on the Plan. The Forest Supervisor may change the proposed rate of implementation schedules to reflect differences between proposed annual budgets and actual funds received. Schedule changes resulting from the budget appropriation process will be considered an amendment to the Forest Plan. The final annual budget allocation for the Toiyabe will serve as documentation of the amendment. Changes resulting from the budget appropriation process shall not be considered a significant amendment, and will not require the preparation of an Environmental Impact Statement. Budget changes which significantly alter the long-term relationships between levels of multiple-use goods and services or result in environmental degradation projected in this Forest Plan, will be evaluated in conjunction with an update of the RPA Program every five years. Evaluations may result in amendments or revisions of the Forest Plan.

DIRECTION

Management direction is expressed in terms of both "Forest" direction and "management area" direction. Forest direction consists of goals, objectives, and management requirements which are generally applicable to the entire Forest. Management Area direction contains management requirements specific to individual areas within the Forest and are applied in addition to the Forest direction management requirements. Management direction responds to public issues, management concerns, and opportunities within the availability, suitability, and capability of the land and resources.

Implementation of this direction is the key to translating the goals, objectives, and management requirements stated in the Plan to results on-the-ground. The Plan is implemented through the program development and budgeting and annual work-planning processes. These processes supplement the Plan and make annual adjustments and changes needed to reflect current priorities within overall management direction.

The Plan provides management direction for developing multi-year implementation programs. The Plan's scheduled practices, grouped as projects, are translated into multi-year program budget proposals which identify the needed expenditures. These processes complement the Planning process as vehicles for requesting and allocating funds needed to carry out the planned management direction. The Forest's proposed annual program budget is the basis for requested funding. Upon approval of a final budget for the Forest, the Annual Program of Work is finalized and implemented. The accomplishment of the Annual Program of Work is the incremental implementation of management direction of the Forest Plan.

ENVIRONMENTAL ANALYSIS

Future environmental analysis associated or needed for projects on the Toiyabe National Forest will be tiered to this Forest Plan. Projects and activities within the Forest Plan will be subjected to environmental analysis as they are planned for implementation and will comply with FSM 1950. If the environmental analysis for a project shows that: (1) the Management Area prescription and standards can be complied with, and (2) little or no environmental effect, controversy, or public interest are expected beyond those identified and documented in the Plan, then the analysis will result in a categorical exclusion. A decision notice will be used to document the decision. An analysis file and/or project file will be available for public review, but not necessarily in the form of an environmental assessment or environmental impact statement.

MONITORING AND EVALUATION

The purpose of monitoring and evaluating implementation of the Forest Plan is to provide the decision-maker with information on progress toward achieving the goals, objectives, and standards.

Monitoring will determine:

1. That management area direction is applied as directed.
2. That standards are being followed.
3. That the Forest is achieving the objectives of the Plan.
4. That application of management area direction is responding to issue topics (planning questions).
5. That effects of implementing the Plan are occurring as predicted.

Evaluation of results of site-specific monitoring programs will be documented in the annual evaluation report. The significance of results of monitoring programs will be analyzed and evaluated by the Forest Interdisciplinary Team.

Based on evaluation, any need for further action will be recommended to the Forest Supervisor. These recommendations could include:

1. No action needed. Monitoring indicates goals, objectives and standards are achieved.

2. Refer recommended action to the appropriate line officer for improvement of application of management area direction.

3. Modify management area direction as a Plan amendment.

4. Revise the projected schedule of outputs.

5. Initiate revision of the Plan.

The documented file of the Forest Supervisor's decisions resulting from monitoring and evaluation is maintained for future use in amending or revising the Plan. At least every five years, a Plan evaluation will be completed and an evaluation report submitted with recommended actions to the Supervisor for his consideration.

Monitoring plans for each of the Forest resources are displayed on pages V-6 to V-17 in this chapter. These monitoring plans all include the following components:

1. Actions, effects, or resources to be monitored -- a specific statement of what will be examined.

2. Intent -- the purpose of the monitoring activity.

3. Expected precision -- the accuracy with which data is collected [precision is qualitatively rated as High (H), Moderate (M), and Low (L)].

   Expected reliability -- a measure of how accurately monitoring reflects the total Forest situation [a qualitative three-class system is used to rate reliability: High (H), Moderate (M) and Low (L)].

4. Responsibility -- the person who will coordinate the monitoring activity (Line responsibility rests with the Supervisor, the District Rangers and the Management Team. This responsibility may be delegated as necessary).

5. Monitoring technique -- a description of monitoring technique and sources of information to be employed.

6. Frequency -- the schedule of sampling or review stated in years.

   Reporting Time -- the recurring interval between evaluation reports summarizing monitoring results for a particular action (item number). Implied is the sampling period needed for specialists to capture significant information. The standard reporting period will be five years, unless more frequent reports are necessary. Based on evaluation reports the responsible official will make changes in management direction or revise or amend the plan as necessary to meet goals and objectives.

7. Sample size -- the level of examination needed to provide precision and reliability.

8. Variability (±) which would initiate further evaluation -- a statement describing tolerance limits within which actual performance deviate from predicted performance. When these limits are exceeded, further evaluation is triggered. In some cases a standard may be specified. Predicted performance may then be compared with actual performance.

9. Overall, there will be sufficient monitoring of the effects of RMPs resource activities to assure protection of soil and water values.

ANNUAL SUMMARY

An annual summary will be made of evaluations and recommendations which address the identified requirements. These could include:

1. No action needed. Monitoring indicates management direction is being achieved.

2. Clarification of management direction needed. Monitoring indicates that management direction is being improperly applied due to a lack of clarity.

3. Amendment of management direction needed.

4. Evaluation not conclusive-additional study or information needed.

5. Initiate revision of the Plan.

Annual summaries of any revisions will be prepared and incorporated into the Plan as additions. A written evaluation report will be made in 1990 and, thereafter, on a five-year schedule.

A significant admendment may be initiated if:

1. Recreation — Person at one time (PAOT) days of developed recreation are reduced due to site deterioration, off-site resource impacts, or public safety to the extent that significant economic and social hardships occur to communities within the Forest's zone of influence.

2. Minerals — Managers are no longer able to resonably administer mining operations that may result in signficant unmitigated damage to surface resources in environmentally sensitive areas.

3. Fire -- Cost plus Net Value Change exceeds 25 percent of planned level in protection.

4. Range, Soil, Water, and Wildlife — When the Forest is no longer able to adequately coordinate and monitor Forest activities to ensure maintenance of soil productivity, water quality, and viable populations of fish and wildlife (or game) species.

When the Forest departs more than 10 percent (over a five-year period) from the schedule that would achieve 95 percent of rangelands in satisfactory condition by the year 2030.

AMMENDMENTS AND SCHEDULED REVISIONS

The Forest Supervisor may amend the Plan. Based on an analysis of the objectives, guidelines, and other contents of the Plan, the Forest Supervisor will determine if changes, resulting from a proposed amendment, will be significant. The Forest Supervisor shall follow the same procedure as that required for development and approval of the Plan. If change resulting from the amendment is determined not to be significant, the Forest Supervisor will implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

The Plan shall ordinarily be revised on a 10- to 15-year cycle. It may be revised, however, when the Forest Supervisor determines that conditions or demands on the Toiyabe National Forest have changed significantly or when changes in RPA policies, goals, or objectives have a significant effect on Forest programs. It may also be revised when monitoring and evaluation results indicate a need. Revisions are not effective until considered and approved in accordance with the requirements for development and approval of the Plan.

The following pages, from V-6 through V-18, display the Toiyabe National Forest's Monitoring Plan. Action Plans can be found from pages V-19 through V-36.

TOIYABE NATIONAL FOREST MONITORING PLANS

The following table displays the Toiyabe National Forest's Monitoring Plan. It provides information on: 1) the action's effects or resources to be monitored, 2) the intent of the monitoring activity, 3) the accuracy to which data will be collected, and the measure of how accurately monitoring reflects the total Forest situation, 4) the person who will be responsible for coordinating the activity, 5) a description of monitoring technique and sources of information to be employed, 6) the schedule for sampling or review (stated in years), 7) the amount of examination needed to provide the level of precision and reliability necessary, and 8) a statement describing the tolerance limits within which actual performance can deviate from predicted performance.

MONITORING PLAN FOR CULTURAL RESOURCES

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Assure surveys and appropriate evaluation and assessment are conducted for all projects which might have the potential to impact cultural resources.	Protect existing cultural resources	HIGH/HIGH	S.O. Staff/ District	Reference search/field work OP,EA,EIS	Continuously /Annual	Forest wide/ Projects	Deviation from standards and guidelines; 20% of project not assessed prior to implementation; destruction of cultural resources; or determination of adverse effect.
Nomination of properties.	Protect existing cultural resources	HIGH/HIGH	S.O.	Reference search	100% sample of Nominations every 5 yrs./5 yrs	Forest wide/ 100% sample of Nominations every 5 years.	No properties nominated.
Monitor existing significant properties to assure no deterioration or destruction occurs.	Protect existing cultural resources	HIGH/HIGH	S.O./District	Field exam	100% sample of significant sites every 2 yrs. /2 yrs.	Forest wide/ 100% sample of significant sites every 2 years.	Identification of potential loss of values which contribute to significance of the property.

MONITORING PLAN FOR WILDERNESS

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Limit and distribute visitor-use so wilderness resources and values are not impaired.		Moderate/ Moderate	District	Photo Transects	Bi-annual/ 5 year		Downward trend of key sites is established.
Effects of insect and disease outbreaks on wilderness values.		High/Moderate			Annual		If outbreaks of epidemic proportions occur.
Effects of fire on wilderness values.	Determine the role of fire on wilderness ecosystem.	Moderate/ Moderate	District	Field exam	Evaluate on a 10 year basis.	Selected canyons	Deviations from standards set in wilderness Fire
Wilderness Use	Protect resources	High/High	Recreation Staff, S.O. and Districts	Field Exam	Yearly	All Wildernesses	Use exceeds capacity by 15%

MONITORING PLAN FOR RECREATION

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Visitor information service and developed recreation sites.	To determine objective attainment.	High/High	Recreation Staff	PAOT - MAR	Yearly/ Yearly		15% variance at the end of the first 4 years then every 5 years.
Trail Maintenance	To determine trail maintenance objective attainment	Moderate/ High	Recreation Staff, S.O. and District	Field Exam/ District Attainment Reporting	Yearly	Selected trails	+ or - 20% of total trail miles planned for maintenance
ORV Travel Plans	To protect resources	High/High	Recreation Staff, S.O. and Districts	Field Exam	Yearly	Forestwide 30% each year	+ or - 15% of acres in Plan

MONITORING PLAN FOR LANDS

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Land Exchange	To determine objective attainment.	High/High	Lands Staff	Acres - MAR	Yearly/ Yearly		15% variance at the end of the first 4 years than every 5 years.
Property Boundary Location	To determine objective attainment.	High/High	Lands Staff	Miles - MAR	Yearly/ Yearly		

MONITORING PLAN FOR TIMBER

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Forest Inventories and yield tables which are used in preparation of harvest levels.	Ensure that strata and inventory used in FORPLAN accurately reflect conditions on the ground.	High/High	S.O./District	Forest Inventory	Once every 10 years/	The inventory will be done each decade and included in the FORPLAN data base. All stand exam data will also be included in one data base.	15% variation of strata delineation or volume contained in each stata.
Timber Offered	Report all timber products offered on the forest.	High/High	S.O./District	MAR Report	Yearly	All products reported.	25% variance at end of every 5 years.
Timber Stand Improvement	Ensure proper management of commercial stands.	Moderate/ Moderate	S.O./District	SILVA Report	Yearly	All TSI work is reported.	15% variance at end of every 5 years.
Reforestation	Ensure that harvested stands are regenerated and comply with National standards.	High/High	S.O./District	SILVA Report	Yearly	100% of regenerated stamds	15% variance at end of every 5 years.

MONITORING PLAN FOR TIMBER (Cont.)

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Insect and Disease Activity	Detect and locate potential problem areas so that controls can begin as soon as possible and determine trends in site condition.	Moderate/ Moderate	S.O./District	Silvicultural exams, aerial, and ground detection surveys. Project work crews.	Yearly	Sample-100% of silvicultural exams. 100% of Sierra zone be flown. Reports from project crews will be needed.	Noticeable increase of insect activity and consultation with FPM.
Evaluate maximum size limits on harvest areas.	To determine if larger regeneration amounts are needed in any management unit.	High/High	S.O./District	SILVA Report	Every 5 years	Sample-100% of regeneration units.	Economic or silvicultural condition indicate a larger size limit necessary.

MONITORING PLAN FOR SOIL

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Soil Quality i.e., potential, productivity, erodibility, fertility, drainage, etc.	Study selected soils having wide occurence in a survey area. Use this information to guide interpretations for similar soils for which data is not available. Assist with soil classification problems.	High/medium-high	S.O.	1. Establish and intensively study benchmark soils using standard SCS methods.	Continuous/ Annual	Forest wide/ 4 to 6 benchmark soils	NA
Erosion resulting from range allotment management and silviculture practices.	Determine compliance with Forest Plan MMR required for non degradation of soil productivity.	High/medium-high	S.O.	Transects including photo, erosion pins and other micro topographic monitoring techniques.	5 yr.	Sierras and Central NV/ 4-6 projects	Soil loss tolerance levels exceeded.

MONITORING PLAN FOR SOIL (Cont.)

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Soil productivity in Wilderness campsites.	Determine impact of recreation use on soil productivity and determine trends in site condition.	Medium/Low-medium	S.O.	Erosion/compaction transects and sequential photo points.	5 yr.	Sierra/ 5-15 sites	Downward trend of site is established.
Completed or proposed soil resource improvement projects.	Determine effectiveness of completed soil resource trends for sites identified in watershed improvement needs inventory.	High/low-high	S.O.	Ocular and sequential photo points.	Annual/ Bi-annual	Forestwide/ 2-6 projects	Improvement work not meeting project objectives and/or project effectiveness not maintained. Soil Resource MMR not maintained.
EA's where the soil resource or No. 6 Cont'd site productivity has been identified as being a significant issue.	To ensure that adequate consideration is given to the soil resource during the planning process to prevent identifiable project failure and/or soil resource degradation.	Medium/Medium	S.O.	Journeyman watershed specialist review all EA's where the soil resource or site productivity has been identified as a significant issue.	Annual/NA	Forestwide/ all EA's where the soil resources or sit productivity has been identified as a significant issue.	Project/activities not meeting soil productivity MMR and/or project success less than predicted.
Management activity/products where soil resource interpretations were key to implementation.	Improve reliability of soil resource interpretations made for soil limitations/management activity relationships.	Medium/ Medium-High	S.O.	Ocular estimates standard soil survey techniques.	Annual/ 3 yr.	Forestwide/ 5-15 projects min of one key project to each resource area.	Projects/activities not meeting soil productivity MMR and/or project success less than predicted.

MONITORING PLAN FOR WATER

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
BASELINE CONDITIONS							
Riparian Area, including: 1. Aquatic Ecosystem. a. Streams (forest-wide) includes instream flows. b. Lakes (Sierras) 2. Riparian Ecosystem (forest-wide). 3. Flood plains (forest-wide). Wetlands	Characterized existing conditions to establish a data base for planning. Long-term trend assessment, establishment of instream flows needs, refinement of state water quality standards, and evaluating cumulative impacts from multi-resource management.	Medium/High	S.O.	Standard methods used to classify, monitor, and evaluate riparian area resource conditions including: -chemical, physical and biological constituents in the aquatic ecosystem -stream regimen -watershed condition of riparian and stream terrestrial zone	1,3,5,yr/ 5 yr.	Forest wide/ 5 to 15 streams	Downward trend is established or state water quality standards are not met.
Ground water in Kyle and Lee Canyons, Las Vegas R.D.	Trend assessment of ground water quality in area of high potential for ground water pollution.	Medium/ Medium-High	S.O.	Standard water quality from existing wells.	Annual/ Annual	Las Vegas RD 3 to 6 wells	Drinking water standards are exceed or downward trend in quality is established. Soil or water MMR's not met.
PROJECT INDUCED CONDITIONS							
Riparian area and watershed runoff conditions resulting from range allotment management, silvicultural practices, and mineral development activities.	Determine cause and effect relationships designed to meet one or more of the following objectives: Compliance with state water quality standards. Verify attainment of riparian area goals and objectives.	High/Medium High	S.O.	Standard Methods used to classify, monitor, and evaluate riparian area resource conditions including: -chemical, physical and biological constituents	Annual/ Annual	Forest wide/ 3 to 5 projects	Soil or water MMR's not met.

MONITORING PLAN FOR WATER (Cont.)

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
	Measure effectiveness of BMPs.			in the aquatic ecosystem -stream regimen -watershed condition of riparian and stream terrestrial zone			
Completed or proposed water resource improvement projects.	Determine effectiveness of completed water resource management work and establish trends for sites identified in the watershed improvement inventory.	High/Low-High	S.O.	Ocular and sequential photo points.	Annual/ Biannual	Forest wide	Improvement work not meeting project objectives and/or project effectiveness not maintained. Soil or water resource MMR's not monitored.
EA's where the water resources or or riparian area has been identified as being a significant issue.	To ensure that adequate consideration is given to the riparian area dependent resources during the planning process in order to prevent project failure and/or resource degradation.	Medium/ Medium	S.O.	Journeyman watershed specialist review all EA's where the water resources or riparian area has been identified as a significant issue.	Annual/NA	All EA's where the water re-	Project/activities not meeting water resource MMR's and/or project success less than predicted.
Management activity/projects where water resource or riparian area interpretations were key to implementation.	Test and improve predictive techniques. Improva reliability of interpretations made for water and other riparian area dependent resource limitations/management activity relationships/	Medium/ Medium-High		Ocular estimates and standards methods used to monitor and evaluate riparian area resource, stream regimen, and watershed runoff conditions.	Annual/3yr.	Forest wide/ 5-15 projects minimum of one key project in each resource area.	Projects/activities not meeting soil or water resource MMR's and/or project success less than predicted.

MONITORING PLAN FOR RANGE

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Grazing use record	To check for compliance with the grazing permit. To determine the presence of excess animals. To firm up stocking rate.	Moderate/ Moderate	District Ranger	Record of actual use by livestock or wild free-roaming horses or burros.	Annual/ Annual	According to approved AMP or TMP. Check 1/3 allotments not under an AMP. Check each territory not under a TMP at least once.	Numbers change up or down 10% or more
Distribution and intensity of grazing use.	To identify management problems. To firm-up stocking rate	High/Moderate	District Ranger	Use mapping.	According to approved AMP or TMP/End of grazing cycle or every 5 yrs.	According to approved AMP or TMP.	Uneven grazing use occurs or use intensity is outside of standards.
Key forage plant utilization	To identify management problems. To firm-up stocking rate.	High/Moderate	District Ranger	Grazing impact study	According to approved AMP or TMP/End of grazing cycle or every 5 yrs.	According to approved AMP or TMP.	Proper use standards are not being met.
Weather Information	To determine the effect on forage production. To interpret management effectiveness.	Moderate/ Moderate	District Ranger	General observations of plant growing conditions	Annual for each Ranger District/ Annual for each Ranger District	Observations of seasonal weather patterns on district.	Significant change in weather occurs, e.g. dry, wet, cold, or hot
Long term trend in range conditions	To determine management effectiveness.	Moderate/ Moderate	District Ranger	Measure change in ecological status and/or resource value	According to approved AMP or TMP/According to approved AMP or TMP	According to approved AMP or TMP.	Ecological status or resource value changes.
Supplemental information such as phenology, ground cover, fire, insects, diseases, rodents, photographs, enclosures and comparison areas.	To help interpret management effectiveness.	Moderate/ Moderate	District Ranger	According to approved AMP or TMP	According to approved AMP or TMP/According to approved AMP or TMP	According to approved AMP or TMP.	A significant event occurs. Information indicates a need for change in management practices.

Note: AMP = Allotment Management Plan; TMP = Territory Management Plan

MONITORING PLAN FOR MINERALS

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Administration of operations	Evaluate compliance to operating plans	Moderate	Districts/ S.O.	Field Exam	60% Sample/ annually	Forestwide/ All plans	Operating plans not meeting project objectives and/or project effectiveness is not maintained

MONITORING PLAN FOR WILDLIFE

ACTIVIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EFFECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Goshawk--Monitor and evaluate all Forest activities that effect mature or old growth habitat.	To maintain suitable habitat.	Low/Medium in Sierras	NDOW Districts S.O.	Survey project areas. NDOW aerial and ground surveys	As projects proposed/ Check 50% of all known nest sites annually in the Sierras. Use NDOW data for central Nevada.	Forest Wide	15 % decline
Maintain Forest-wide record of nest sites as they are found. Share data with state wildlife agencies. Use habitat capability profile.	To maintain suitable habitat.	High in central Nevada	NDOW Districts S.O.	Check known nest sites.	Bi-Annually		
Pine Marten--Monitor and evaluate habitat via biologist analysis of timber sales. Use Habitat capability profile.	To maintain suitable habitat.	Medium	District S.O. CFG NDOW	Wildlife surveys in proposed Timber sale areas.	As projects proposed Bi-Annually	Sierran Districts	20% decline
Paiute Cutthroat Trout--Monitor and evaluate Silver King habitat and populations. Comply with recovery plan goals and objectives.	To maintain suitable habitat.	High	S.O. District CFG	Habitat(FS) and population (CFG) surveys.	Annually	Site Specific	No decline permissable - Failure to meet recovery schedule.

MONITORING PLAN FOR WILDLIFE (Cont.)

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Lahontan Cutthroat Trout	Comply with recovery and management goals and objectives.	High	NDOW CFG S.O. District	Habitat (FS) & population (NDOW & CFG) Surveys	Annually	All Districts, except Las Vegas	No decline permissable-Failure to meet Humboldt CCT Recovery Schedule.
Macroinvertebrates --Monitor selected habitats for baseline data and additional selected aquatic habitat for affects by management activities.	To maintain suitable habitat.	High	Districts S.O.	Macoinvertebrates analysis	1,3,5, years than every 5 years. To be coordinated with watershed The same stream will be monitored.	All Districts except Las Vegas 5 to 15 streams	Biotic Condition Index rating of less than current, or if less than 85 failure to show upward trend.
Williamson's Sapsucker	Evaluate Forest activities affecting snags Follow snag management guide.	High	Districts S.O.	Biologist evaluation of timber sales & Fuelwood EA's and activities.	As projects proposed/ Bi-Annually	Sieras and Las Vegas	Number of snags per acre below those stated in Toiyabe Snag Policy.
Hairy Woodpecker	Evaluate F.S. activities affecting snags Follow snag management guide and habitat capability profile.	High	Districts S.O.	Biologist evaluation of timber sales and Fuelwood EA's and activities.	As projects proposed Bi-Annually	All Districts except Las Vegas	Number of snags per acre below those stated in Toiyabe Snag Policy.
Mule Deer	Evaluate F.S. activities affecting deer. Provide state agencies opportunity for input to Forest activities. Use Habitat capability profile.	Medium	NDOW/CFG Districts S.O.	State agency population data	Annually. As projects proposed.	Forest Wide	Data indicating trends not leading to state agency objectives for 2 consecutive years, and due to habitat or management.
Sage Grouse--Monitor livestock impact on key areas. Establish district record of key areas.	To maintain suitable habitat.	Medium	NDOW/CFG Districts S.O.	NDOW/CFG Surveys FS habitat surveys	Annually	Forest Wide	Sensitive species. Declines not permissable due to habitat alteration or deterioration

MONITORING PLAN FOR WILDLIFE (Cont.)

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Yellow Warbler--Monitor Forest activities affecting willow/riparian habitat.	To maintain suitable habitat.	Low	District S.O.	F.S. monitor habitat via surveys of suitable riparian habitats.	Annually until adequate base established then every 3 yrs/ Survey habitats with established populations.	All Districts except Las Vegas	30% decline
Palmers Chipmunk--Evaluate and monitor habitat of key areas.	To maintain suitable habitat.	Medium	District S.O.	Follow recommendations for management as per Las Vegas District Chipmunk Management Guide.	Annually for first 3 yrs. then every 5 years. Areas identified as high abundance. (McFarland sp., Mary Jane, Deer Creek, Lee Canyon).	Las Vegas	15% decline
Yellow-bellied Sapsucker--Evaluate Forest activities affecting snag management guidelines.	To maintain suitable habitat.	Medium	District S.O.	F.S. monitor habitat and population of known breeding areas.	Annually for first 3 yrs. then every 5 years. McFarland Canyon, Mazie Canyon, Little Falls	Las Vegas	30% decline
Yellow-rumped Warbler--Evaluate and monitor habitat of key areas.	To maintain suitable habitat.	Medium	District S.O.	F.S. monitor habitat and population of known breeding. areas.	Annually for first 3 yrs. then every 5 years. Montane Forest.	Las Vegas	30% decline
Sensitive Plant Species--Existing and potential threats to survival.	To maintain suitable habitat.	Medium to High	District Ranger	Population and habitat studies	In accordance with status report for species	Forest wide	Decline in population because of habitat alternation or deterioration

NDOW = Nevada Division of Wildlife
CFG = California Fish and Game

MONITORING PLAN FOR PROTECTION

ACTIVITY, PRACTICE OR EFFECT TO BE MONITORED	INTENT OF MONITORING	EXPECTED PRECISION RELIABILITY	RESPONSIBILITY	MONITORING TECHNIQUE	FREQUENCY OF MEASUREMENT/ REPORTING PERIOD	LEVEL OF MONITORING/ SAMPLE SIZE	VARIABILITY WOULD INITIATE FURTHER EVALUATION
Prescribed burning for Range	Evaluate range condition trends resulting from burning	Medium to High	District/S.O.	Monitor veg. species composition and vigor	Annually for 2 yrs after burn. Then every 5 yrs	Forest-wide	Indications of long term decline in range condition due to burning
Prescribed Burning for Wildlife	Evaluate habitat quality trends resulting from burning	Medium to High	District/S.O.	Monitor veg. species compisition and vigor	Annually for 2 yrs after burn. Then every 5 yrs	Forest-wide	Indications of long term decline in range condition due to burning
Wilderness Fire Management	Evaluate impacts on wildernesss resource burning	Medium to High	District/S.O.	Monitor burned acreage, fire effects, and suppression rehabilitation	Annually	Carson Iceberg Wilderness	Unacceptable damage to wilderness resource
Wildfire cost plus net value change	To verify National Fire Analysis	Med/Med	S.O. Staff	Procedure described in FSH 5109.19	Annual		± 10% of total NVC in decade

TOIYABE NATIONAL FOREST ACTION PLANS

The following table displays the Toiyabe National Forest's Action Plans. These are not site-specific projects or activities, but represent a schedule of management practices or activities which strives to meet the Forest Plan's Goals and Objectives. Projects and activities within the Plan will be subject to environmental analysis as they are planned for implementation, and will comply with FSM 1950. Future environmental analyses associated or needed for projects on the Toiyabe National Forest will be tiered to this Plan.

ACTION PLAN FOR DEVELOPED RECREATIONAL OPPORTUNITIES (1986 to 1990)

MIH Code	Management Practice or Activity	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990
A05	LOWER TWIN C.G.	2	4	X				
A06	VIRGINIA LAKE T.H.	2	4	X				
A05	SAWMILL C.G.	2	4		X			
A05	TRUMBULL LAKE C.G. (WATER)	2	4		X			
A05	HONEYMOON C.G.	2	4			X		
A06	TAHOE MEADOW T.H.	1	2			X		
A05	KINGSTON, BIG CRK & BOB SCOTT C.G.S. (WATER)	3	8				X	
A06	TWIN LAKE T.H.	2	4				X	
A05	HILLTOP AND KYLE CYN C.G.S.	5	11				X	
A05	HOPE VALLEY C.G.	1	3					X
A06	GREEN CREEK T.H.	2	4					X
A06	BOULDER C.G.	2	4					X

ACTION PLAN FOR DEVELOPED RECREATIONAL OPPORTUNITIES (1991 to 1995)

MIH Code	Management Practice or Activity	District	Management Area	Outputs by Year 1991	1992	1993	1994	1995
A06	HARRIS SADDLE, MARY JANE FALLS, & CAMP BONANZA T.H.S	5	11	X				
A06	TRES PIEDRAS P.G.	5	11		X			
A06	KINGSTON T.H.	3	9			X		
A05	BRIDGEPORT VIS.	2	4				X	
A06	COW CANYON T.H.	4	8					X

ACTION PLAN FOR TRAIL RECREATIONAL OPPORTUNITIES (1986 to 1990)

MIM Code	Management Practice or Activity	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990
A10	PCT TRAIL - E. FORK CARSON (2 MILES)	1	3		X			
A11	MARY JANE FALLS (1 MILE)	5	11		X			
A10	THOMAS CREEK (1 MILE)	1	2			X		
A11	WHITES CREEK (5 MILES)	1	2			X		
A10 A11	NORTH LOOP TO BRISTLECONE (4 MILES)	5	11,12				X	
A10	MONITOR TRAIL (50 MILES)	3,4	10				X	
A10	CARSON-ICEBERG WILDERNESS TRAILS (7 MILES)	1	5					X
A11	GRIFFITH PEAK (6 MILES)	5	12					X

ACTION PLAN FOR TRAIL RECREATIONAL OPPORTUNITIES (1991 to 1995)

MIM Code	Management Practice or Activity	District	Management Area	Outputs by Year 1991	1992	1993	1994	1995
A10	WALKER TRAILS (7 MILES)	2	4	X				
A11	LOWER S. LOOP (2.5 MILES)	5	11	X				
A10 A11	TOIYABE RANGE TRAILS (15 MILES)	3,4	8		X			
A10	MT. CHARLESTON CREST (2.5 MILES)	5	12		X			
A10	ALPINE TRAILS (12 MILES)	1	3			X		
A10	HOOVER WILDERNESS TRAILS (5.3 MILES)						X	
A10 A11	LATERAL TRAILS TO MT. CHARLESTON CREST (9.5 MILES)	5	11,12					X

ACTION PLAN FOR SOIL AND WATER IMPROVEMENT (1986 to 1995)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year					
					1986	1987	1988	1989	1990	1991-95
F03	Improvement	acres	3	10	17					
			4	9	7					
				10	10					
			3	10		17				
			4	9		7				
				10		10				
			2	4				5	10	10
			3	10			11			
			4	9			12			
			3	8				12		
			4	8				11		
			1	2					5	
			2	6						15
			3	8					12	
			4	8					12	
			1	1						10
				2						10
				4						10
			3	8						30
				10						35
F08	Maintenance		2	4						25
F05	Maintenance		2	6						15
F01	Soil and Water Resource Inventory	% of Forest Riparian Area			10	20	20	20	20	10

ACTION PLAN FOR SOIL AND WATER IMPROVEMENT (1986 to 1995 cont.)

MIM Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990	1991-95
250	Progressive Soil Resource Inventory	Acres	3,4	10	200M	200M				
			3,4	9			200M			
			3,4	8				100M		
			3,4	7				100M		
253	Progressive Water Resource Inventory	Acres	3	10	52M					
			1	2		35M				
			2	6		39M				
			3	7		29M				
			3	8		13M				
			1	3,5			5M			
			2	5			37M			
			2	4			46M			
			3	9			55M			
			2	6				100M		
			5						50M	
			4						50M	
										500M
G01	Geologic Inventory	Acres	2			100M		100M		300M
			1				100M		100M	200M

ACTION PLAN FOR RANGE (1986 to 1995)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year					
					1986	1987	1988	1989	1990	1991-95
D01	Range Resource Planning		Carson	Dog Valley						
	Initial Plans	Plans								3
	Update Plans	Plans				1				
D05	Range Structural Improvement, New	Structures			1	3	3	3	2	5
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			4	4	4	4	4	20
	Allot/Terr Examinations	Cases			4	4	4	4	4	20
	Wild Horses and Burros	Cases								
D12	Control of Noxious Farm Weeds	Acress			2	2	2	2	2	10
D01	Range Resource Planning		Carson	Carson Front						
	Initial Plans	Plans								4
	Update Plans	Plans						1		1
D02	Range Resource Inventory									
	Initial Analysis	Acres				35000				650
	Update Analysis	Acres				2500				
D03	Range Nonstructural Improvement, Initial	Acres								400
D05	Range Structural Improvement, New	Structures						2	4	5
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			6	6	6	6	6	30
	Allot/Terr Examinations	Cases			6	6	6	6	6	30
	Wild Horses and Burros	Cases								
F07	Water Rights	Claims						4	2	2
D01	Range Resource Planning		Carson	Alpine						
	Initial Plans	Plans					2		1	6
	Update Plans	Plans				1				
D02	Range Resource Inventory									
	Initial Analysis	Acres					10240			
	Update Analysis	Acres					3100			
D03	Range Nonstructural Improvement, Initial	Acres						100	100	700

ACTION PLAN FOR RANGE (1986 to 1995 cont.)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990	1991-95
D05	Range Structural Improvement, New	Structures			3	1	1	1	1	7
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			14	14	14	14	14	70
	Allot/Terr Examinations	Cases			14	14	14	14	14	70
	Wild Horses and Burros	Cases								
D12	Control of Noxious Farm Weeds	Acres			4	4	4	4	4	20
D01	Range Resource Planning		Carson	Wilderness Carson-Iceberg & Raymond Peak						
	Initial Plans	Plans								1
	Update Plans	Plans			2		1			1
D02	Range Resource Inventory									
	Initial Analysis	Acres						140		
	Update Analysis	Acres				100				
D05	Range Structural Improvement, New	Structures				1	2	1		6
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			5	5	5	5	5	25
	Allot/Terr Examinations	Cases			5	5	5	5	5	25
	Wild Horses and Burros	Cases								
D01	Range Resource Planning		Bridgeport	Walker						
	Initial Plans	Plans					1			3
	Update Plans	Plans				5		1		
D02	Range Resource Inventory									
	Initial Analysis	Acres			39185		6960			
	Update Analysis	Acres								
D03	Range Nonstructural Improvement, Initial	Acres					850	600	500	700
D05	Range Structural Improvement, New	Structures			1	1		1		4.5
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			19	19	19	19	19	95
	Allot/Terr Examinations	Cases			19	19	19	19	19	95
	Wild Horses and Burros	Cases								

D05 - 1 structure = 1 trough, or 1.0 mile of fence

ACTION PLAN FOR RANGE (1986 to 1995 cont.)

MIH	Management	Unit of		Management	Outputs by Year					
Code	Practice or Activity	Measure	District	Area	1986	1987	1988	1989	1990	1991-95
D12	Control of Noxious				0	0	0	150	150	750
	Farm Weeds	Acres								
D01	Range Resource Planning									
	Initial Plans	Plans	Bridgeport	Hoover						
	Update Plans	Plans		Wilderness		1				
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			1	1	1	1	1	5
	Allot/Terr Examinations	Cases			1	1	1	1	1	5
	Wild Horses and Burros	Cases								
D01	Range Resource Planning									
	Initial Plans	Plans	Bridgeport	Hoover			1			1
	Update Plans	Plans		Wilderness Extension						1
D02	Range Resource Inventory									
	Initial Analysis	Acres								
	Update Analysis	Acres			37265					
D05	Range Structural, New	Structures						1		
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			3	3	3	3	3	15
	Allot/Terr Examinations	Cases			3	3	3	3	3	15
	Wild Horses and Burros	Cases								
D01	Range Resource Planning									
	Initial Plans	Plans	Bridgeport	Bridgeport PJ					1	8
	Update Plans	Plans								
D02	Range Resource Inventory									
	Initial Analysis	Acres				39320		53140		
	Update Analysis	Acres				75860	10380	116090		
D03	Range Nonstructural									
	Improvement, Initial	Acres								1600
D05	Range Structural									
	Improvement, New	Structures								15
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			25	25	25	25	25	125
	Allot/Terr Examinations	Cases			25	25	25	25	25	125
	Wild Horses and Burros	Cases			2	2	2	2	2	10
D12	Control of Noxious				0	0	0	150	150	750
	Farm Weeds	Acres								

ACTION PLAN FOR RANGE (1986 to 1995 cont.)

MIH	Management	Unit of		Management	Outputs by Year					
Code	Practice or Activity	Measure	District	Area	1986	1987	1988	1989	1990	1991-95
F07	Water Rights	Claims			3			1		
D01	Range Resource Planning									
	Initial Plans	Plans	Austin	Shoshone-						
	Update Plans	Plans		Paradise		1	2			1
D02	Range Resource Inventory									
	Initial Analysis	Acres								
	Update Analysis	Acres				27900				190000
D03	Range Nonstructural									
	Improvement, Initial	Acres			200		200			500
D04	Range Nonstructural									
	Improvement, Maintenance	Acres						4000		
D05	Range Structural									
	Improvement, New	Structures			12	2	3	6	9	34
D07	Range Administration and Management									
	Permit Admin & Mgmt	Cases			4	4	4	4	4	20
	Allot/Terr Examinations	Cases			4	4	4	4	4	20
	Wild Horses and Burros	Cases			3	3	3	3	3	15
D12	Control of Noxious									
	Farm Weeds	Acres					20	20	20	100
F07	Water Rights	Claims			4			2		
D01	Range Resource Planning									
201	Initial Plans	Plans		Toiyabe	(3)	1 (1)		(1)		(1)
202	Update Plans	Plans			(1)	1		(1)	(2)	1 (6)
D02	Range Resource Inventory									
206	Initial	Acres				740 &				
	"					(2200)	(1500)		(300)	(500)
207	Update				2000	3000				150 &
	"									(3500)
D03	Range Nonstructural									
	Improvement, Initial	Acres								
	P Control						500 &	500 &		1000
	"					(850)	(1550)	(50)	(50)	
	Seeding					(200)		(1000)	(1000)	(500)

( ) = Austin District Activity
No ( ) = Tonopah District Activity

ACTION PLAN FOR RANGE (1986 to 1995 cont.)

MIM Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year					
					1986	1987	1988	1989	1990	1991-95
D04	Range Nonstructural Improvement, Maintenance	Acres		Toiyabes			(4000)		(2000)	(10000)
D05	Range Structural Improvement, New	Structures								
	Fences	Miles			(2)	(12)	(10)	(6)	3 (4)	1 (31)
	Water Development	Number			7	1 (5)	4 (9)	4 (7)	4 (6)	20 (22)
	Other	Number								
D06	Structural Improvement Maintenance	Number			2	2	2	2	2	2
D07	Range Administration and Management									
223	Permit Admin & Mgmt	Cases			2 (12)	2 (12)	2 (12)	2 (12)	2 (12)	2 (12)
224	Allot Mgt Plans (AOP)				5 (12)	5 (12)	5 (12)	5 (12)	5 (12)	25 (60)
226	Allot/Terr Examinations	Cases								
	Util				3 (19)	3 (21)	3 (21)	3 (29)	3 (20)	15 (59)
	Trend				(10)	(2)	1	1 (4)	1 (2)	3 (9)
	Other				(5)	2 (5)	1 (6)	(7)	2 (6)	5 (20)
227	Admin	Cases			2 (7)	2 (4)	2 (3)	2 (2)	2 (0)	10 (5)
231	Wild Horses and Burros Capture	Number			0	0	0	0	0	0
D11	Cover Type Mgt - P/J	Acres				(5)				150
D12	Control of Noxious Farm Weeds	Acres			15 (80)	15 (90)	15 (90)	15 (80)	15 (50)	75 (350)
F07	Water Rights	Claims	Austin		3	3	6	4	5	6
			Tonopah		3	0	1	1	2	5
D01	Range Resource Planning									
201	Initial Plans	Plans		Toquima	1		(1)			2 (1)
202	Update Plans	Plans						1		(3)
D02	Range Resource Inventory									
206	Initial	Acres			1350			(1500)		
207	Update						520			500
D03	Range Nonstructural Improvement, Initial	Acres								
	P Control							400,300	200 &	400 &
	"								(200)	(2000)
	Seeding									
D04	Range Nonstructural Improvement, Maintenance	Acres								2000

( ) = Austin District Activities
No ( ) = Tonopah District Activities

ACTION PLAN FOR RANGE (1986 to 1995 cont.)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990	1991-95
D05	Range Structural									
	Improvement, New	Structures		Toquimas						
	Fences	Miles			3			(2)	4	2,4 (14)
	Water Development	Number				1	4			(12)
	Other	Number				2	1		2	1 (2)
D06	Structural Improvement									
	Maintenance	Number			1	1	1	1	1	5
D07	Range Administration and Management									
223	Permit Admin & Mgmt	Cases			3 (10)	3 (10)	3 (10)	3 (10)	3 (10)	3 (10)
224	Allot Mgt Plans (AOP)				7 (10)	7 (10)	7 (10)	7 (10)	7 (10)	35 (50)
226	Allot/Terr Examinations	Cases								
	Util				3	3	3 (4)	3 (4)	3 (4)	15 (28)
	Trend					1	1 (2)	1	1	3 (6)
	Other									(2)
227	Admin	Cases			2 (3)	2	2 (2)	2	2 (1)	10 (1)
231	Wild Horses and Burros									
	Capture	Number							10	45
D12	Control of Noxious									
	Farm Weeds	Acres						(20)	(20)	(40)
F07	Water Rights	Claims	Austin		0	0	0	1	0	6
			Tonopah		3	1	5	1	4	11
D01	Range Resource Planning									
201	Initial Plans	Plans		Monitor					(1)	(2)
202	Update Plans	Plans				(1)		(1)	1	1 (2)
D02	Range Resource Inventory									
206	Initial Analysis	Acres					(3000)	(1500)		(500)
207	Update							1000	500	(3500)
D03	Range Nonstructural									
	Improvement, Initial	Acres								
	P Control				0	300 &			(1000)	(1500)
	"					(1000)				
	Seeding						(2000)			
D05	Range Structural									
	Improvement, New	Structures								
	Fences	Miles				(2)	(10)		(5)	2.5 (30)
	Water Developments	Number			(2)	2 (4)	1 (4)	2 (4)	2 (4)	10 (20)
	Other	Number			(3)	(3)			(2)	2 (6)

( ) = Austin District Activities
No ( ) = Tonopah District Activities

ACTION PLAN FOR RANGE (1986 to 1995)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990	1991-95
	Structural Improvement Maintenance	Number		Monitor	1	1	1	1	1	5
D07	Range Administrtion and Management									
223	Permit Admin & Mgmt	Cases			3 (6)	3 (6)	3 (6)	3 (6)	3 (6)	3 (6)
224	Allot Mgt Plans (AOP)				7 (6)	7 (6)	7 (6)	7 (6)	7 (6)	35 (30)
226	Allot/Terr Examinations	Cases			3 (10)	3 (10)	3 (10)	3 (3)	3 (8)	15 (38)
	Util						1 (2)	3 (5)	10	3 (12)
	Trend				1 (2)	(4)	1 (4)	(2)	(2)	2 (4)
	Other				2 (3)	2 (3)	2 (3)	2 (3)	2 (3)	10 (3)
227	Admin	Cases								
231	Wild Horses and Burros Capture	Number			0	0	0	0	0	0
D12	Control of Noxious Farm Weeds	Acres			(50)	(50)	20 (50)	20 (50)	20 (50)	70 (200)
F07	Water Rights	Claims	Austin		4	2	0	1	0	12
			Tonopah		5	3	4	2	4	11

ACTION PLAN FOR WILDLIFE (1986 to 1995)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990	1991-95
C03	Structures		Carson	1,2,3,5	4	4	0	4	4	9
	Exclosures									9
	Water Development	Structures			5	10	10	10	10	15
	Fish/ Stream Improvement	Structures			5	5	5	5	5	20
	Brush Piles	Structures								
C02	Non-Structural		Carson	1,2,3,5		20	20	20	20	60
	Openings	Acres			4	4	4	9	9	15
	Wildlife/ Fish	Acres			15	35	35	35	35	100
	Seedings/ Plantings	Acres			0	0	0	0	0	300
	Prescribed Burning	Acres		1,2,3						
C04	Maintenance	Structures	Carson	1,2,3,5	2	5	17	19	22	132
C03	Structures		Bridgeport	4,6						
	Water Development	Structures			30	20	20	15	10	135
	Fish/ Stream Improvement	Structures								4
	Spring Enclosures	Structures			10	10	10	10	10	10
	Brush piles	Structures			25	25	25	25	25	100
	Snags	Structures					4	4	4	3
	Habitat Access Mgt	Structures								
C02	Non-Structural		Bridgeport	4,6						700
	Openings	Acres								
	Fish/ Stream	Structures								
	Seeding/Planting	Acres								
C02	Prescribed Burning	Acres	Bridgeport	4,6			50		50	
C04	Maintenance	Structures / Acres	Bridgeport	4,6	6	20	20	24	24	120
C03	Structures		Austin	7,8,9,10	3	0	2	3	3	12
	Water Development	Structures			10	10	10	25	25	100
	Fish/ Stream Improvement	Structures			1	1	1	1	1	5
	Spring Enclosures	Structures			5	5	5	5	5	20
	Brush piles	Structures			5	0	0	0	0	2
	Bird boxes	Structures								
C02	Non-Structural		Austin	7	10	17	20	0	0	40
	Openings	Acres			1	0	1	0	0	1
	Fish/ Stream	Acres			2	0	0	0	0	30
	Seeding/ Planting	Acres								
C02	Prescribed Burning	Acres	Austin	7,8,9,10	400	400	0	20	400	1600
	Wildlife	Acres			0	0	0	0	0	0
C04	Maintenance	Acres/ Structures	Austin	7	6	6	0	0	10	40

ACTION PLAN FOR WILDLIFE (1986 to 1995 cont.)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990	1991-95
C03	Structures		Tonopah	8,9,10						
	Water Development	Structures			3	3	3	3	3	15
	Fish/ Stream Improvement	Structures			10	5	10	20	20	25
	Spring Enclosures	Structures			3	1	0	0	1	5
	Brush piles	Structures			5	10	0	0	5	40
	Bird boxes	Structures			2	5	0	0	0	15
C02	Non-Structural		Tonopah	8,9,10						
	Openings	Acres			5	5	5	5	5	25
	Fish/ Stream	Acres			10	5	0	0	0	25
	Seeding/ Planting	Acres			100	100	0	0	0	200
C02	Prescribed Burning	Acres	Tonopah	8,9,10	400	20	0	0	0	2000
C04	Maintenance	Structures	Tonopah	8,9,10	2	6	10	10	10	50
C03	Structures		Vegas	11,12						
	Water Development	Structures		11,12	2	2	2	2	2	8
	Brush piles	Structures			5	5	5	5	5	25
	Snags/Logs	Structures			15	15	15	15	15	75
	Spring Exclosure	Structures			2	2	2	1	1	5
	Access Control	Structures			2	2	1	0	0	0
C02	Non-Structural		Vegas							
	Openings	Acres			40	40	40	40	40	160
	Seedings/ Plantings	Acres		11,12	40	40	40	40	40	160
C04	Maintenance	Structures	Vegas		2	6	6	6	6	40
F07	Water Rights	Claims		11,12	0	1	1	1	1	2

ACTION PLAN FOR FIRE (1986 to 1995)

MIH Code	Management Practice or Activity	District	Management Area	Outputs by Year					
				1986	1987	1988	1989	1990	1991-95
P02	Prepare Hazard/Risk Assess.	1,2,5	1-4,11	X	X	X			
P02	Recommend fire resistant materials for roof coverings.	1,2,5	1-4,11			X	X	X	
P02	Educate purchasers of property of Potential Fire Hazards	1,2,5	1-4,11		X	X	X	X	X
P02	Participate in the development of fire safe guidelines.	1,2,5	1-4,11			X	X	X	
P02	Encourage adoption of Fire Safe Guidelines.	1,2,5	1-4,11				X	X	
P02	Encourage local approving agencies to consider fire hazard potential before approving development.	1,2,5	1-4,11				X	X	X
P02	Develop interagency public information plan.	1,2,5	1-4,11		X	X	X	X	
P02	Publish Hazard/Risk Maps	1,2,5	1-4,11			X	X		
P02	Develop interagency fire rehabilitation plan.	1,2,5	1-4,11					X	
P02	Develop interagency prevention plan	1,2,5	1-4,11		X	X	X	X	
P07	Develop interagency communications plan	1,2,5	1-4,11	X	X	X			
P06	Implement NIIMS	1,2,5	1-4,11	X	X	X	X	X	X
P08	Develop interagency preattack and preplanned dispatch systems	1,2,5	1-4,11	X	X	X	X	X	
P19	Evaluate feasibility of interagency Air programs	1,2,5	1-4,11		X	X			
P06	Organize interagency fire overhead teams	1,2,5	1-4,11	X	X	X	X	X	X
P07	Evaluate feasibility of interagency fire warehouse.	1,2,5	1-4,11	X	X	X			
P24	Develop interagency fire investigation process.	1,2,5	1-4,11	X	X	X	X	X	X
P11	Develop integrated vegetative Mgt. Plan	1,2,5	1-4,11						X
P01	Prepare Fire Management Action Plan for Carson-Iceberg Wilderness	1	5			X			

ACTION PLAN FOR ROADS (1986 to 1990)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year 1986	1987	1988	1989	1990
	Buckeye-Robinsin Creek #10017								
	Major District recreation route	ROW-miles	2	4	2.1				
	Lower Twin C.G. #10044A	Reconst.-Miles	2	4	2.0				
	Kingston-Big Creek #20002 District #1 priority	ROW-miles	3	8	3.0				
	Buckeye-Robinson #10017	Reconst.-miles	2	4		7.4			
	Sawmill C.G. #10129	Reconst.-miles	2	4		.5			
	Trumbull C.G. #10136	Reconst.-miles	2	4		1.4			
	Carson #20462	ROW-miles	1	2		7.0			
	Honeymoon C.G. #10036	Reconst.-miles	2	4			1.3		
	Hunter Lake #20392	ROW-miles	1	2			5.3		
	Michelle Canyon-Long Valley #10010 Put land T20N, R17E, Sec 30	ROW-miles	1	1			.8		
	Port Aurthur #10034 District #3 Priority	ROW-miles	1	1			1.1		
	Mitchell Canyon #10124 Put land T20N, R17E, Sec 30	ROW-miles ROW-miles	1	1			.7		
	Crags C.G. #10130	Const-miles	2	4				1.0	
	Kingston-Big Creek #20002 District #1 Priority	Reconst.-miles	3	8				5.5	

ACTION PLAN FOR ROADS (1987 to 1991)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Year 1987	1988	1989	1990	1991
	Birch Creek #20003 District #2 Priority	ROW-miles	3	8			1.0		
	San Juan #20016 District #3 Priority	ROW-miles	3	8			.8		
	White Sage #20025 District #4 Priority	ROW-miles	3	10			.5		
	Northumberland #20023 District #5 Priority	ROW-miles	3	9			.5		
	Union Canyon #20024 District #6 Priortiy	ROW-miles	3	7			.5		
	Grantsville #20108 District #7 Priority	ROW-miles	3	7			.6		
	Sunrise Basin	ROW-miles	1	1			1.2		
	Boulder C.G.	Const. miles	2	4				.7	
	Rough Creek #20045 Major District Route	Reconst.-miles	2	6				3.7	
	Hope Valley C.G. #10081	Reconst.-miles	1	3				3.0	
	Coulee Canyon-Long Valley #10003 District #2 Priority & 1993 T.S.	ROW-miles	1	1				1.2	
	Pete's Summit #20001 District #2 Priority	Reconst.-miles	3	9					7.9
	Muskgrove Canyon #20446 District #2 Priority & FY 1994 T.S.	ROW-miles	1	2					7.3

ACTION PLAN FOR ROADS (1992 TO 1994)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Years		
					1992	1993	1994
	Tres Piedras C.G.	Const.-miles	5	11	1.0		
	Spooner	ROW-miles	1	2	3.5		
	Coulee Canyon-Long Valley #10003 District #1 Priority & FY 1993 T.S.	Reconst.-miles	1	1	2.0		
	Mitchell Canyon-Long Valley #10010 Major District Route	Reconst.-miles	1	1	7.2		
	Red House #20186 District #5 Priority & FY 1994 T.S.	ROW-miles	1	2	5.8		
	Robert's Canyon #10182	ROW-miles	1	1		3.5	
	Muskgrove Canyon #20446 FY 1994 W. Little Valley T.S.	Reconst.-miles	1	2		7.3	
	Cloverdale #20018 Major District Route	ROW-miles	4	8		4.6	
	Peavine #20020 Major District Recreation Route	Reconst.-miles	4	8			2.6
	Rough Creek #20045 Major District Route Outside National Forest Boundary	ROW-miles	2	6			3.1

ACTION PLAN FOR ROADS (1992 TO 1995)

MIH Code	Management Practice or Activity	Unit of Measure	District	Management Area	Outputs by Years			
					1992	1993	1994	1995
	Cloverdale #20018	Reconst.-miles	4	8				9.6
	Hunter Lake #20392 Sierra Front	ROW-miles	1	2				1.8

TEN YEAR TIMBER SALES DIRECTION

The allowable sale quantities and Long-term Sustained Yield Capacity for this plan is as follows:

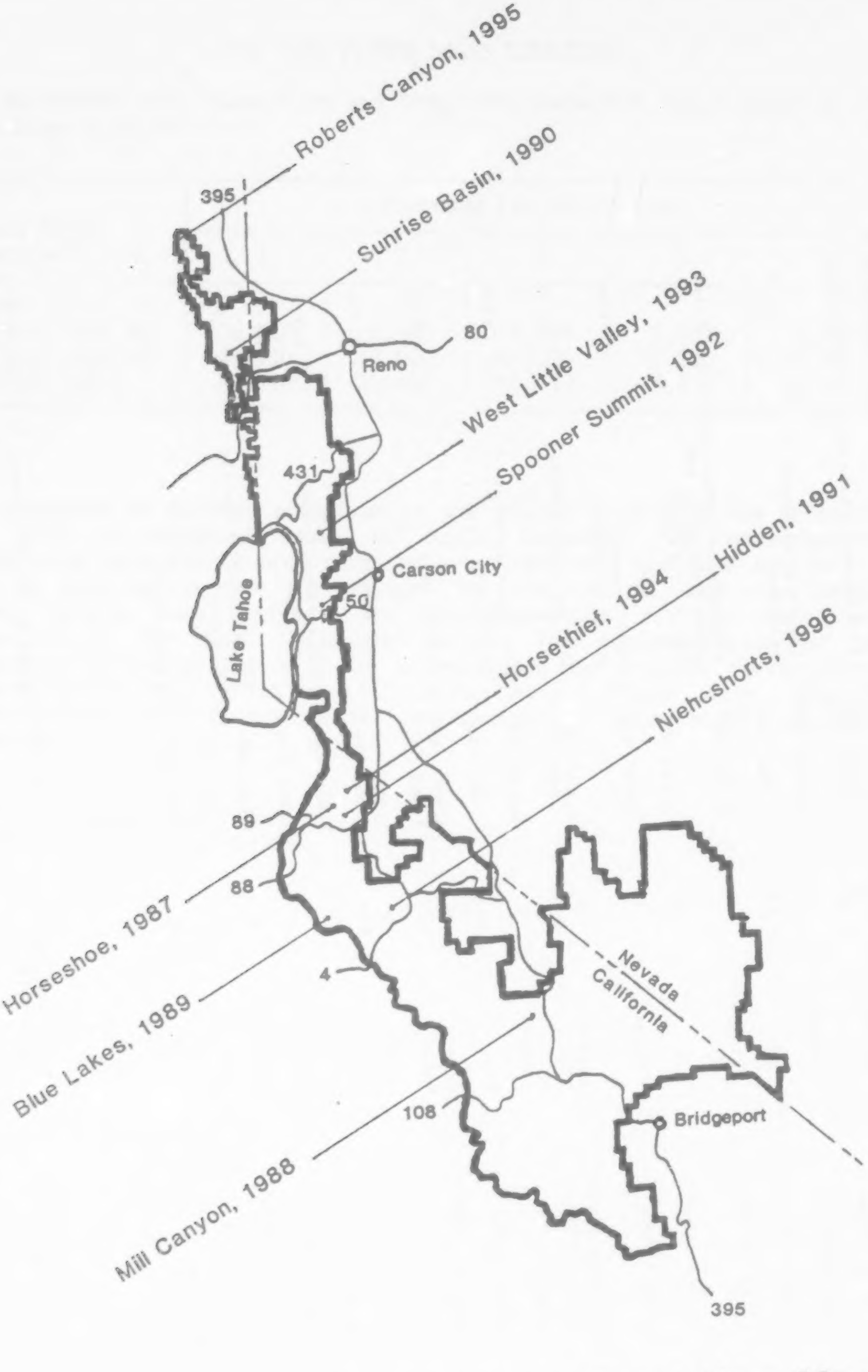
Decade Total Scheduled Yield	Planning Period (Decade)				
	1	2	3	4	5
Timber					
Yield (MCF)*	6,932	6,933	6,934	6,937	6,936
Yield (MBF)**	45,000	45,000	45,000	45,000	45,000
LTSYC (MCF)	15,410	15,410	15,410	15,410	15,410

The estimates of volumes contained in the 10-year sale plan are tentative and will be adjusted based on field locations and measurements. Annually,as each year's prescriptions are completed, the sale action-plan will be updated to show any changes in area, volume, and road needs. These changes will reflect the implementation of the management prescriptions for that management area. The implementation of the management prescriptions will be accomplished by written silvicultural prescriptions by certified silviculturists. These site specific prescriptions will determine the management of each stand including thinnings.

* MCF = Thousand Cubic Feet
** MBF = Thousand Board Feet

FY	Sale Name	Ranger District	Mgt. Area	Volume	Type of Harvest	Road Construction/ Reconstruction *
1986	Pleasant-Spratt	Carson	3	2,200 MBF	Shelterwood/Thinning	2.1 Miles
	Small Sales	All	All	1,000 MBF		
1987	Horseshoe	Carson	3	2,500 MBF	Shelterwood/Group Selection	3.2 Miles
	Small Sales	All	All	900 MBF		
1988	Mill Canyon	Bridgeport	4	2,000 MBF	Shelterwood/Retention Group Selection and Patch Clearcuts	2.5 Miles
	Small Sales	All	All	1,500 MBF		
1989	Blue Lakes	Carson	3	3,400 MBF	Shelterwood Group Selection	Miles
1990	Sunrise Basin	Carson	2	5,400 MBF	Shelterwood/Special	3.4 Miles
	Small Sales	All	All	900 MBF		
1991	Hidden	Carson	3	4,000 MBF	Shelterwood/Group Selection	5.7 Miles
	Small Sales	All	All	900 MBF		
1992	Spooner Summit	Carson	2	4,800 MBF	Shelterwood	4.5 Miles
	Small Sales	All	All	1,000 MBF		
1993	W. Little Valley	Carson	2	3,000 MBF	Shelterwood	4.5 Miles
	Small Sales	All	All	1,500 MBF		
1994	Horsethief	Carson	3	3,000 MBF	Shelterwood/Group Selection	7.4 Miles
	Small Sales	All	All	2,000 MBF		
1995	Roberts Canyon	Carson	1	3,000 MBF	Shelterwood/Retention Thinning	8.6 Miles
	Small Sales	All	All	1,500 MBF		
1996	Poor Boy	Carson	3	3,000 MBF	Shelterwood	Miles

* Mileage is estimated. FInal miles and locations will be determined after individual transportation analyses are completed for each timber sale.


Roberts Canyon, 1995
Sunrise Basin, 1990
West Little Valley, 1993
Spooner Summit, 1992
Hidden, 1991
Horsethief, 1994
Niehcshorts, 1996
Horseshoe, 1987
Blue Lakes, 1989
Mill Canyon, 1988
395
80
Reno
431
Carson City
50
Lake Tahoe
89
88
4
108
Nevada
California
Bridgeport
395

Ten Year Timber Sale Location Map

VI. GLOSSARY

Access - Usually refers to a road or trail route over which a public agency claims a right-of-way for public use.

Acre equivalent - The index of acres affected by wildlife habitat improvements in contrast to actual acres treated.

Acre-foot - A measure of water or sediment volume equal to the amount which would cover an area of 1 acre to a depth of 1 foot (325,851 gallons).

Activity - The work processes or management practices that are conducted to produce, enhance, or maintain outputs or achieve administrative and environmental quality objectives (FSM 1309, Management Information Handbook). An activity can generate multiple outputs.

Activity area - The total area for which a ground-impacting activity is planned. An activity area may be a unit of a timber sale, a slash disposal or site preparation project, grazing allotment, etc., including the transportation facilities in and adjacent to the project area. This definition excludes site-intensive developments, such as campgrounds, mines, drill sites, aggregate source areas, and water developments.

Activity fuels - Logging debris generated from any activity on the Forest such as firewood gathering, precommercial thinning, timber harvesting, and road construction, which increases fire potential.

Activity outputs - The quantifiable goods or services resulting from any management actions taken on the Forest.

Administrative headquarters site - A site which exists primarily for general administrative purposes. It normally will include office, warehouse, outside storage, and parking areas. It may include housing and pasture for livestock. A work center may be part of an administrative headquarters site.

Administrative unit - All the National Forest System lands for which one Forest Supervisor has responsibility.

Affected environment - The natural and physical environment under the administration of one line officer, such as District Ranger or Forest Supervisor.

Age class - An interval, usually 10 to 20 years, into which the age ranges of vegetation are divided for classification or use.

Agricultural base - Economy in which the base industry of a community is agriculture.

Airshed - A geographic area that, because of topography, meteorology, and climate, shares the same air. As applied to the National Forest by the Clean Air Act, amended August 1977, the term covers all wilderness areas larger than 5,000 acres that were in existence as of August, 1977.

Allotment - See Range allotment.

Allowable sale quantity (ASQ) - The quantity of timber that may be sold from the area of suitable land covered by the Forest Plan for a time period specified by the Plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity."

Alternative - One of several policies, plans, or projects proposed for decision making.

Analysis area (AA) - One or more "cells" grouped for purposes of analysis. Analysis areas are cells in the same capability zone, working group, road cost zone, slope and timber condition class. Analysis areas are cells that have been grouped based on common impacts, effects, and social or economic factors.

Analysis of the Management Situation (AMS) - A determination of the ability of the planning area to supply goods and services in response to society's demand for those goods and services.

Animal Unit Month (AUM) - The amount of forage required by one mature (1,000 lb.) cow and calf or that equivalent for one month.

Annual Forest Program - The summary or aggregation of all projects that make up an integrated (multifunctional) course of action, at a given level of funding for a Forest planning area, that is consistent with the Forest Plan.

Appropriate costs - The sum of operational and capital investment costs.

Aquatic ecosystems - These are the stream channel, lake, or estuary bed, water itself, and biotic communities that occur therein.

Arterial roads - Primary traffic route serving a large area and providing travel efficiency for many activities. Arterial roads are non-project roads, usually built with Agency funds.

Assessment - The Forest and Rangeland Renewable Resource Assessment required by the Resources Planning Act (RPA).

In soil and water terminology, an acreage determination of all system roads, spur roads, landings, and constructed skidroads that should be made for each land-disturbing project area. (A typical timber sale will contain three to five percent of the area in this condition.) In addition, acreages displaying other forms of detrimental disturbance should be determined. These are typically areas of moderate compaction, erosion, displacement, or shallow puddling. (A typical timber sale will contain five to 35 percent of the area in this condition in addition to the roads, landings, etc., mentioned above, depending upon logging systems used.) These less severe types of detrimental disturbance generally offer the best opportunities for successful productivity restoration.

Available Forest land - Land which has not been legislatively withdrawn or administratively withdrawn by the Secretary of Agriculture or Forest Service Chief from timber production.

Average annual cut - The volume of timber harvested in a decade, divided by 10; used as a basis for comparison of alternatives, not as a measure of nondeclining yield.

Background - The visible terrain beyond the foreground and middleground where individual trees are not visible but are blended into the total fabric of the stand. Also the portion of a view between three to five miles from the observer, and as far as the eye can detect objects.

Basal area - The area of the cross-section of a tree stem near the base, generally at breast height and inclusive of bark.

Base sale schedule - A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity. (This definition expresses the principle of nondeclining flow.)

Baseline - With respect to soils, the amount of erosion and sedimentation due to natural sources in the absence of human activity.

Benefit - The total value of an output or other effect.

Best Management Practices (BMP) - A practice or combination of practices that are the most effective and practical (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals.

Big game - Those species of large mammals normally managed as a sport hunting resource.

Big game management unit - Political/biological units of land used by Nevada Department of Wildlife and the California Department of Fish and Game as season-setting and data collection areas.

Big-game summer range - The area available to and used by big game through the summer season.

Big game winter range - The area available to and used by big game through the winter season.

Biological capacity - The average net growth of wood attainable under intensive management.

Biological control - A method to control insect populations or tree diseases through the use of applied technology.

Biological growth-potential - The average net growth attainable in a fully stocked natural forest stand.

Biological potential - The maximum possible output of a given resource, limited only by its inherent physical and biological characteristics.

Biotic condition Index - An index that expresses how close an aquatic ecosystem is to its own potential. Expressed as a percentage.

Board feet (BF) - The amount of wood equivalent to a piece of wood one foot by one foot by one inch thick. Generally, five board feet log measure is equivalent to one cubic foot of round wood.

Board foot/cubic foot conversion ratio - Both board foot and cubic foot volumes can be determined for timber stands. The number of board feet per cubic foot of volume varies with tree species, diameter, height, and form factors. For the Toiyabe, the Forest-wide average conversion ratio is 6.45 board feet per cubic foot. A specific factor by species is applied to the cubic foot FORPLAN outputs to give board foot estimates.

British Thermal Unit - The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit.

Browse - That part of leaf and twig growth of shrubs, woody vines, and trees available for animal consumption, in particular, those shrubs which are utilized by big game animals for food.

Calving areas - Areas traditionally used by the cow elk for giving birth and rearing calves until they are approximately two weeks old. These areas are located where escape and thermal cover exists for the cows and the relatively immobile newborn calves. Succulent forage is usually available for the lactating female. Water is found in the immediate areas and the terrain is gentle with slopes of 15 percent or less interspersed with steeper sites. These areas are normally found along the upper portion of the spring migration route.

Canopy - The vertical projection downward of the aerial portion of shrubs and trees, usually expressed as a percentage of ground so occupied.

Capable lands - Those portions of the Forest that have an inherent ability to support trees for timber harvest and produce at least 20 cubic feet/acre/year of wood fiber.

Capability - The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease.

Capability zone - Land capability zones used in FORPLAN.

Capital investment costs - Those costs associated with construction or development of improvements; includes road construction, reforestation, campground construction, range improvements, etc.

Carrying capacity - The maximum stocking rate possible without inducing damage to vegetation or related resource. As used in the determination of elk habitat effectiveness, carrying capacity is the estimated capability (expressed as the number of elk per square mile) of the elk herd subunit to provide quality elk habitat.

Catastrophic condition - A significant change in forest conditions on the area that affects Forest Plan resource management objectives and their projected and scheduled outputs, uses, costs, and effects on local communities and environmental quality.

Cavity - The hollow excavated in trees by birds or other natural phenomena; used for roosting and reproduction by many birds and mammals.

Cell - The basic information unit used in the Toiyabe National Forest planning data base a unique land unit defined by a combination of characteristics such as land ownership, timber strata, range suitability, wildlife habitat areas, etc.; synonymous with "capability area" used by other Forests.

Characteristic landscape - The overall impression created by a landscape's unique combination of visual features (land, vegetation, water structures), as seen in terms of form, line, color and texture; synonymous with "visual landscape character."

Clearcutting - The cutting method that describes the silviculture system in which the old crop is cleared over a considerable area at one time. Regeneration then occurs from (a) natural seeding from adjacent stands, (b) seed contained n the slash or logging debris, (c) advance growth, or (d) planting or direct seeding. An even-aged forest usually results.

Climax - The highest ecological development of a plant community capable of perpetuation under the prevailing climatic and edaphic conditions.

Closure - The administrative order restricting either location, timing, or type of use in a specific area.

Collector roads - Roads constructed to serve two or more elements but which do not fit into the other two categories (arterial or local). Construction costs of these facilities are prorated to the respective element served. These roads serve smaller land areas and are usually connected to a Forest arterial or public highway. They collect traffic from Forest roads or terminal facilities. The location and standard are influenced by both long-term multi-resource service needs and travel efficiency. Forest collector roads are operated for constant service.

Congressional study areas (Planning Areas) - Roadless areas identification in the California Wilderness Act of 1984 Requiring a wilderness study and report to congress within three years of the Act.

Commercial Forest Land - Used under old timber classification; Forest land which is capable of producing crops of industrial wood and which has not been reserved or deferred; includes both accessible and nonaccessible areas that produce more than 20 cubic feet of growth per acre each year. Permanently inoperable or nonstockable areas are excluded because they are unsuitable for silvicultural management.

Conversely, nonstocked areas which are stockable and otherwise meet this definition are included.

Commodities - Products produced from a parcel of land; e.g., outputs of wood, livestock forage, and minerals.

Common minerals - Deposits such as sand, stone, gravel, and clay.

Compartment - Land areas, generally watersheds, averaging 5,000 to 7,000 acres in size, which act as timber data storage units.

Condition class, Timber - A grouping of timber strata into size-age-stocking classes for Forest planning. For range, see Range condition class.

Community lifestyles - The ways in which residents conduct their everyday routines and how the "way they live" is associated with the National Forest.

Confinement - To restrict the fire within determined boundaries established either prior to the fire, during the fire, or in an escaped fire situation analysis. The normal tactic is surveillance only.

Conifer - Those cone-bearing trees, mostly evergreen, including the pine, spruce, fir, etc.

Consumptive use - A use of resources that reduces the supply, such as logging and mining. See also "Nonconsumptive use."

Containment - To surround a fire, and any spot fires therefrom, with control line, as needed, which can reasonably be expected to check the fire's spread under prevailing and predicted conditions. The normal tactic is indirect attack and burn to human-made or natural barrier with little or no mop-up.

Control - To complete the control line around a fire, any spot fires therefrom, and any interior islands to be saved, burn out any unburned area adjacent to the fire side of the control line, and cool down all hot spots that are immediate threats to the control line, until the line can reasonably be expected to hold under foreseeable conditions. The normal tactic is direct attack on the fire, if possible, and mop-up.

Coordinated allocation and scheduling zone (CASZ) - An area of land used,for analytical purposes, to assure that compatible activities and uses can be assigned and scheduled to meet a specific management objective.

Corridor - A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries.

Cost effectiveness - Achieving specified outputs or objectives under given conditions for the least cost.

Cost-efficiency - The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values but are achieved at specified levels in the least costly manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and rates-of-return may be appropriate.

Council on Environmental Quality - An advisory council to the President established by the National Environmental Policy Act of 1969. It reviews Federal programs for their effect on the environment, conducts environmental studies, and advises the President on environmental matters.

Critical habitat - Key land areas used by wildlife for forage and reproduction.

Crown height - Of a standing tree, the vertical distance from ground level to the base of the crown measured either to the lowest live branchwhorl or to the lowest live branch (excluding shoots arising spontaneously from buds on the stem of a woody plant) or to a point halfway between.

Crushing - A method to reduce fuel bed depth without chipping or changing actual fuel load, and is usually done by tractor or other euqipment.

Cubic foot - The amount of timber equivalent to a piece of wood one foot by one foot by one foot.

Cubic yard - A measure of soil or sediment volume which would cover a square yard of area one yard deep (3 feet x 3 feet x 3 feet).

Culmination of mean annual increment (CMAI) - The point where the mean annual growth increment (the basal area of a stand of trees divided by their age) ceases to increase prior to decline.

Cultural resource - The remains of sites, structures, or objects used by humans in the past--historical or archaeological.

Cultural sensitivity - Refers to the likelihood of encountering significant cultural volumes (quantity and/or quality) which may affect and be affected by ground-disturbing activities.

Cutting cycle - The planned lapse of time between successive cuttings in a stand.

Diameter at breast height (DBH) - The diameter of a tree measured 4 feet 6 inches above the ground.

Data - Any recorded measurements, facts, evidence, or observations reduced to written, graphical, tabular or computer form. The term implies reliability, and therefore, provides an explanation of source, type, precision and accuracy.

Deficit timber sale - A timber sale where the costs associated with producing the primary product(s) plus profit margin are greater than the selling value of the same product(s).

Decking areas - Sites that are intermediate between stump and landing, used to collect logs.

Decision criteria - Essentially the rules or standards used to evaluate alternatives. They are measurements or indicators that are designed to assist a decisionmaker to identify a preferred choice from the array of possible alternatives.

Demand - The quantity of goods or services called for at various prices, holding other factors constant.

Departure - The temporary deviation from the non-declining even-flow policy.

Dependent communities - Communities whose social, economic, or political life would become discernably different in important respects if market or nonmarket outputs from the National Forests were cut off.

Design capacity - The maximum theoretical amount of use a developed recreation site was built to accommodate.

Design standard - Approved design and construction specifications mainly used for recreation facilities and roads--includes specified materials, colors, dimensions, etc.

Designated corridor - A linear area of land with defined and recognized boundaries identified and designated by legal public notice.

Destination resort - A recreation resort designed for multi-day use in contrast to day use.

Detrimental Disturbance - The alteration of the natural soil characteristics which results in immediate and/or prolonged violations of off-site resources quality standards or a reduction in timber volume growth (timber sites) or biomass production (non-timbered sites) of more than 25 percent.

Detrimental disturbance is represented by the following physical characteristics:

(A) Soil Puddling - Where the soil has been manipulated in a saturated or nearly saturated condition to the point that natural structural identity is lost.

(B) Soil Compaction - Where one or more of the following conditions occur in relation to natural: a 50 percent reduction in macropore space; less than 15 percent macropore space, total; 15% increase in soil bulk density; or a 40 percent reduction in hydraulic conductivity. (All measurements at the six inch depth.)

(C) Displacement - Where, through erosion or mechnical means, more than 50 percent of natural A1 and/or AC horizons (dark colored surface horizons) is removed from more than 20 percent of an activity area, excluding system roads and permanent facilities. Displacement on specific sites smaller than 100 square feet (continuous) or where soil has moved less than 10 feet from its predisturbance position will not normally be considered significant.

Developed recreation - Recreation that requires facilities that, in turn, result in concentrated use of an area. Examples of recreation areas are campgrounds and ski areas. Facilities in these areas might include roads, parking lots, picnic tables, toilets, drinking water, ski lifts, and buildings.

Developed recreation site - Relatively small, distinctly defined area where facilities are provided for concentrated public use; e.g., campgrounds, picnic areas, swimming areas.

Direct outputs - Resource outputs that are caused by the action and occur at the same time and place.

Discount rate - An interest rate that represents the cost or time value of money in determining the present value of future costs and benefits.

Discounting - An adjustment, using a discount rate, for the value of money over time so that costs and benefits occurring in the future are reduced to a common time, usually the present, for comparison.

Dispersed recreation - A general term referring to recreation use outside the developed recreation site. This includes activities such as scenic driving, hunting, backpacking, and recreation in primitive environments.

Distance zone - One of three categories used in the Visual Management System to divide a view into near and far components. The three categories are (1) foreground, (2) middle ground, and (3) background.

Diversity - The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan.

Draft Environmental Impact Statement (DEIS) - The statement of environmental effects which is required for major federal actions under Section 102 of the National Environmental Policy Act, and released to the public and other agencies for comment and review.

Early forest succession - The biotic community that develops immediately following the removal or destruction of the vegetation in an area.

Economic efficiency analysis - An analytical method in which incremental market and nonmarket benefits are compared with incremental economic costs.

Ecological status - The present state of the vegetation and soil protection of an ecological site in relation to the potential natural community (PNC) for the site. PNC is defined as "the biotic community that would become established if all successional sequences were completed without inference by man under the present environmental conditions." Vegetative rating classes used to classify ecological status of the vegetation are expressed as PNC or early-, mid-, late- succession or PNC, early-seral, mid-seral, and late-seral.

Economic growth - Increased economic output in real terms over time.

Ecosystems - An interacting system of organisms considered together with their environment, for example, marsh, watershed, and lake ecosystems.

Edge - Area where plant communities meet or where successional stages or vegetation conditions within the plant communities come together.

Effects - Environmental consequences as a result of a proposed action. Included are direct effects, which are caused by the action and occur at the same time and place, and indirect effects, which are caused by the action and occur later in time or further removed in distance, but which are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water, and other natural systems, including ecosystems.

Effects and impacts as used in this statement are synonymous. Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic quality, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial (40 CFR 1508.8).

Effective ground cover - All vegetative material within three feet of the exposed soil surfaces as well as any additional litter, rock, and rock fragments on the soil surface.

Electronic sites - Areas designated for the operation of equipment which transmits and receives radio signals, excluding television aerials and antennas, for local pickup of programing and passive reflectors.

Endangered species - Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range. Plants or animal species identified by the Secretary of the Interior as endangered in accordance with the 1973 Endangered Species Act.

Endemic - An insect or disease occurring regularly in a locality or region with its normal status at low to moderate severity levels.

Endemic plant - A plant confined to a certain country or region and with a comparatively restricted geographic distribution.

Environmental analysis - An analysis of alternative actions and their predictable short-and long-term environmental effects, which include physical, biological, economic, social, and environmental design factors, and their interactions.

Environmental Assessment (EA) - The concise public document required by the regulations for implementing the procedural requirements of NEPA (40 CFR 1508.9).

Environmental Impact Statement (EIS) - A statement of the environmental effects of a proposed action and alternatives to it. It is required for major federal actions under Section 102 of the National Environmental Policy Act (NEPA) and released to the public and other agencies for comment and review. It is a formal document that must follow the requirements of NEPA, the Council on Environmental Quality (CEQ) guidelines, and directives of the agency responsible for the project proposal.

Evaluation criteria - Standards developed for appraising alternatives.

Even-aged management - The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes) throughout the forest area. The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands.

Even-aged silviculture - The combination of timber management actions that result in the creation of stands where trees of essentially the same age grow together.

Clearcutting - The removal, in a single cut, of all trees in stands larger than seedlings.

Seed tree cutting - Similar to clearcutting, except that a few of the better trees of the desired species are left scattered over the area to provide seed for regeneration.

Shelterwood cutting - The removal of all trees in a series of two or more cuts over a period of not more than 30 years.

Even-aged systems - Product stands in which all trees are of about the same age. (A spread of 10 to 20 years is generally considered one age class). Cutting methods producing even-aged stands are clearcut, shelterwood, or seed tree systems.

Even-flow - Maintaining a relatively constant supply of timber from decade to decade.

Extensive grazing - Management seeks full utilization of forage assigned to livestock. Cost-effective management systems and techniques, including fencing and water development, are designed and applied to obtain relatively uniform livestock distribution and use of forage, and to maintain plant vigor.

Facilities - Transportation planning, road management and operation, fleet equipment, and engineering services (for example, administrative buildings, water and sanitation systems, sanitary landfills, dams, bridges, and communication systems).

Facility condition class - The rating system used in the Recreation Information Management System to classify the condition of repair that a specific facility is in and maintenance needs of recreation sites and areas. Used for planning and budget requests.

Fee ownership - Ownership of property that has no limitation, qualification, or condition affecting it and is the maximum possible ownership in real estate under the system of property rights founded on English common law.

Fee purchase - Acquisition of fee ownership to a piece of property.

Fee site - A Forest Service recreation area in which users must pay a fee. Fee sites must meet certain standards and provide certain facilities as specified in the Forest Service Manual.

Final cut - Removal of the last seed bearers or shelter trees after regeneration is considered to be established under a shelterwood system.

Fire hazard - The fuel in which a fire will ignite and burn.

Fire management - All activities required for protection of resources from fire and the use of fire to meet land management goals and objectives.

Fire risk - The potential cause of a fire.

Fisheries habitat - Streams, lakes, and reservoirs that support fish.

Flood plains - The lowland and relatively flat area adjoining inland waters, including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year.

Forage - All browse and nonwoody plants that are available to wildlife for grazing or harvested for feeding.

Forage/cover ratio - The ratio of cover areas (defined as certain timber strata) to non-cover areas of the Forest.

Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) - An Act of Congress requiring the preparation of a program for the management of the National Forests' renewable resources and of land and resource management plans for units of the National Forest System. It also requires a continuing inventory of all National Forest System lands and renewable resources.

Forest - Communities formed by trees with a canopy cover of 61 percent or more at maturity. Includes forested wetlands.

Forest land - Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for nonforest use. Lands developed for nonforest use includes areas for

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crops, improved pasture, residential, or adminstrative areas; improved roads of any width, and adjoining road clearing and powerline clearing of any width. The term "occupancy," when used to define forest land, will be measured by canopy cover of live forest trees at maturity. The minimum area for classification of forest land is one acre. Unimproved roads, trails, streams, and clearings in forest areas are classified as forest, if they are less than 120 feet wide.

Foreground - A term used in visual management to describe the landscape immediately adjacent to the high-value scenic area, recreation facility, or forest highway.

Forest development roads and trails - A legal term for Forest roads or trails that are under the management of the Forest Service.

Forest Supervisor - The official responsible for administering the National Forest System lands in a Forest Service administrative unit, which may consist of two or more National Forests or all the Forests within a state. He reports to the Regional Forester.

Forest system roads - Roads that are part of the Forest development transportation system, which includes all existing and planned roads as well as other special and terminal facilities designated as Forest development transportation facilities. (See arterial roads, collector roads, and local roads.)

FORPLAN - A linear programing system used for developing and analyzing Forest planning alternatives.

Fuel break - A zone in which fuel quantity has been reduced or altered to provide a position for suppression forces to make a stand against wild fire. Fuel breaks are designated or constructed before the outbreak of a fire. Fuel breaks may consist of one or a combination of the following: natural barriers, constructed fuel breaks, manmade barriers.

Fuel model - A simulated fuel complex for which all the fuel descriptions required by the mathematical fire spread model have been specified.

Fuel treatment - The rearrangement or disposal of natural or activity fuels to reduce the fire hazard. Fuels are defined as both living and dead vegetative materials consumable by fire.

Fuels - Include both living plants and dead, woody vegetative materials which are capable of burning.

Fuels management - The practice of planning and executing treatment or control of any vegetative material that adversely affects meeting fire management direction based upon resource management goals and objectives.

Full-service management - The management, administration, operation, and maintenance of developed sites (except VIS) to established standards and management objectives for public service and use. Management objectives are based on site capacity, site protection needs, seasonal demands for public use, and desired levels of service to enhance the visitor's experience and convenience and provide optimum maintenance.

Further Planning Areas - These are Roadless Areas identified in the Roadless Area Review and Evaluation for future wilderness study.

Game species - Any species of wildlife or fish for which seasons and bag limits have been prescribed and which are normally harvested by hunters, trappers, and/or fishermen under state or federal laws, codes, and regulations.

General Aquatic Wildlife System (GAWS) - Wildlife inventory, evaluation data storage system to predict aquatic habitat conditions and the vulnerability of habitats to impact.

Goal - A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principal basis from which objectives are developed.

Goods and services - The various outputs, including on-site uses, produced from forest and rangeland resources.

Grass/forb - An early Forest successional stage where grasses and forbs are the dominant vegetation.

Group selection cutting - The cutting method that describes the silvicultural system in which trees are removed periodically in small groups, resulting in openings that do not exceed an acre or two in size. This leads to the formation of an uneven-aged stand in the form of a mosaic of age-class groups in the same forest.

Growing season - The months of the year during which a species of vegetation grows.

Guideline - An indication or outline of policy or conduct; i.e., any issuance that assists in determining the course of direction to be taken in any planned action to accomplish a specific objective.

Habitat - The place where a plant or animal naturally or normally lives or grows.

Habitat diversity index - A measure of habitat diversity improvement expressed as a percentage of optimum size class distribution that is achieved over time.

Habitat grouping - Grouping of habitat types in logical categories to facilitate resource planning.

Habitat type - The aggregate of all areas that support or can support the same primary vegetation at climax.

Hiding cover - Vegetation that will hide 90 percent of an elk from the view of a human at a distance of 200 feet or less. The distance at which the animal is essentially hidden is called a "sight distance."

Horizontal diversity - The distribution and abundance of different plant and animal communities or successional stages across an area of land; the greater the number of communities, the higher the degree of horizontal diversity.

Identifier - A characteristic that helps define an analysis area. Identifiers for analysis areas on the Toiyabe National Forest include capability zone, timber working group, road cost zone, timber condition class, etc.

Implementation - Those activities necessary to respond to the approved Land and Resource Management Plan.

Incidental grazing - Grazing use that occurs on lands not managed for the production of domestic livestock. May occur as a result of natural herd movement, trailing of livestock, or the use of domestic livestock in recreation.

Indeterminate stands - A group of trees of similar age and species composition that has been invaded by other tree species to the point where the original group has lost its identify as a discrete unit.

Indirect outputs - Outputs caused by the action but which are later in time or farther removed in distance, although still reasonably foreseeable.

Individual (single) tree selection - The cutting method that describes the silvicultural system in which trees are removed individually, here and there, each year over an entire forest or stand. The resultant stand usually regenerates naturally and becomes all-aged.

Induced outputs - Outputs in the private sector induced by the direct outputs produced on the Forest.

Indicator species - A plant or animal species adapted to a particular kind of environment. Its presence is sufficient indication that specific habitat conditions are also present.

Input/output analysis - A quantitative study of the interdependence of a group of activities based on the relationship between inputs and outputs of the activities. The basic tool of analysis is an input-output model for a given period that shows simultaneously for each economic sector the value of inputs and outputs, as well as the value of transactions within each economic sector. It has especially been applied to estimate the effects of changes in Forest output levels on local economic activity.

Instream flows - A prescribed level (or levels) of streamflow, usually expressed as a stipulation in a permit authorizing a dam or water diversion for the purpose of meeting National Forest System management objectives.

Integrated pest management - A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated population on various resource values, alternative regulation tactics and strategies and benefit/cost estimates of those alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides.

Intensity - Indicates the number of timber stand entries, or for areas without timber harvest, indicates the level of investment undertaken.

Intensive grazing - Grazing management that controls distribution of cattle and duration of use on the range, usually by fences, so parts of the range are rested during the growing season.

Intensive management - A high investment level of timber management that includes use of precommercial thinnings, commercial thinnings, genetic ally improved stock, and control of competing vegetation.

Intensive, Systemmatic Survey: Cultural resource survey which ensures 100 percent coverage of a specified area. Generally, 30 meter interval transects will be the maximum used.

Interdisciplinary approach - The utilization of individuals representing two or more areas of knowledge and skills focusing on the same task, problem, or subject. Team member interaction provides necessary insight to all stages of the process.

Intermediate cutting - Any removal of trees from a stand between the time of its formation and the regeneration cut. Most commonly applied intermediate cuttings are release, thinning, improvement, and salvage.

Intermittent streams - A stream which flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow in mountainous areas.

Intermountain Region - That part of the National Forest System which encompasses National Forests within the Intermountain Region (Utah, southern and central Idaho, western Wyoming, and Nevada).

Interpretive services - Visitor information services designed to present educational and recreational values to Forest visitors to enhance their understanding, appreciation, and enjoyment of the Forest.

Intuitive Survey: Cultural resource survey which results in less than 100 percent coverage of a specified area. This is based on a professional judgement which eliminates certain areas from survey because of certain limiting factors: e.g., slope, vegetation cover, known lack of sensitivity, etc.

Inventory data and information collection - The process of obtaining, storing, and using current inventory data appropriate for planning and managing the Forest.

Irretrievable - Applies to losses of production, harvest, or commitment of renewable natural resources. For example, some or all of the timber production from an area is irretrievably lost during the time an area is used as a winter sports site. If the use is changed, timber production can be resumed. The production lost is irretrievable, but the action is not irreversible.

Irreversible - Applies primarily to the use of non-renewable resources, such as minerals or cultural reosurces, or to those factors that are renewable only over long time spans, such as soil productivity. Irreversible also includes loss of future options.

Issue - A point, matter, or question of public discussion or interest to be addressed or decided through the planning process.

Juxtaposition - Relative position of forage, cover, and other important components within a compartment. The following ratings have been developed:

a. Good juxtaposition - Forage and cover sites are well interspersed throughout the landscape. Forage areas are usually less than 1000 feet wide and most cover areas are between 600 and 1200 feet wide.

b. Fair juxtaposition - Forage and cover sites are moderately well-interspersed throughout the landscape.

c. Poor juxtaposition - Forage and cover sites are not well interspersed. Large blocks of either forage or cover are in local areas.

Kuchler vegetation types - Potential natural vegetation of the continental United States, classified by Kuchler.

Key winter range - The portion of the year-long range where big game find food and/or cover during severe winter weather.

Land class - The topographic relief of a unit of land. Land classes are separated by slope, which coincides with the timber inventory process. The three land classes used in the Forest Plan are defined by the following slope ranges: 0 to 40 percent; 40 to 60 percent; and greater than 60 percent.

Land exchange - The conveyance of non-Federal land or interests in the United States in exchange for National Forest System land or interests in land.

Land Systems Inventory (LSI) - A land stratification system based on geomorphic principles, described in Thompson and Larson's "Land Systems Inventory, Toiyabe National Forest."

Landtype association - A grouping of landtypes representing the broadest level in the land stratification system. Obvious elements of soils, landform and vegetation are distinguishing factors.

Landing - Any place where round timber is assembled for further transport, commonly with a change of method.

Landline - For Forest Plan purposes, National Forest property boundaries.

Landline location - Legal identification and accurate location of National Forest property boundaries.

Landtype - Visually identifiable unit areas resulting from homogeneous geomorphic and climatic process and having defined patterns of soils and vegetative potentials.

Late Forest succession - A stage of Forest succession where the majority of trees are mature or overmature.

Landownership pattern - The National Forest System resource land base in relation to other landownerships within given boundaries.

Leasable minerals - Coal, gas, oil, phosphate, sodium, potassium, oil shale, sulphur and geothermal steam.

Lek - A traditional area that both sexes of sage grouse congregate during the breeding season. Lek is synonymous with strutting grounds.

Level IV Law Enforcement Officer - A Forest Service employee who has graduated from the Federal Law Enforcement Academy and holds a law enforcement commission signed by the Regional Forester. District Level IV officers generally perform other duties as well as law enforcement.

Locatable minerals - Those hardrock minerals which are mined and processed for the recovery of metals.

Linear programming - A mathematical method used to determine the cost-effective assignment of limited resources between competing demands when both the objective; e.g., profit or cost, and the restrictions on its attainment are expressible as a system of linear equalities or inequalities.

Local dependent industries - Industries relying on National Forest outputs for economic activity.

Local roads - Roads constructed and maintained for, and frequented by, the activities of a given resource element. Some use may be made by other element activities, but normally maintenance is not affected by such use. These roads connect terminal facilities with Forest collector or Forest arterial roads or public highways. The location and standard are usually determined by the requirements of a specific resource activity rather than by travel efficiency. Forest local roads may be developed and operated for either constant or intermittent service, depending on land use and resource management objectives for the area served by the facility.

Logging residues - The unused portions of poletimber and sawtimber trees remaining after logging.

Long-term sustained yield timber capacity - The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple-use objectives.

Lopping - A hand treatment method which severs woody material to reduce fuel bed depth.

Maintenance level - Low level of management; activities are limited to those that provide for public safety, those that prevent environmental damage to downstream or adjoining lands and resources, those necessary to administer existing and new special uses, and those necessary to protect soil and water resources and land productivity.

Management area - An area of land with similar management goals and a common management prescription.

Management concern - An issue, problem, or a condition which constrains the range of management practices identified by the Forest Service in the planning process.

Management direction - A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them.

Management indicator species (MIS) - A species selected because its population changes indicate effects of management activities on the plant and animal community. A species whose condition can be used to assess the impacts of management actions on a particular area.

Management practice - A specific activity, measure, course of action, or treatment.

Management prescription - Management practices and intensity selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives.

Mature timber - Trees that have attained full development, particularly height, and are in full seed production.

Market-value outputs - Goods and services valued in terms of what people are willing to pay for them, as evidenced by market transactions.

Maximum expected use - This is the upper end of the horizontal demand assumption. The "demand" for each of the resources was assumed to be the targets displayed in the Final Environmental Impact Statement for the Intermountain Regional Guide at those ROA prices, and is the amount of a good or servoce that users would be willing to take at a specific price (1980 RPA and Region 4 values), time period (50 years) and condition of sale.

Maximum modification - A visual quality objective. Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

Mean annual increment of growth - The total increase in girth, diameter, basal area, height, or volume of individual trees, or a stand up to a given age divided by that age.

Middleground - The visible terrain beyond the foreground where individual trees are still visible but do not stand out distinctly from the stand.

Mineral development - The preparation of a proven deposit for mining.

Mineral entry - The filing of a mining claim for public land to obtain the right to any minerals it may contain.

Mineral entry withdrawal - The exclusion of the right of exclusive possession by the locator, of locatable mineral deposits and mineral development work on areas required for administrative sites by the Forest Service and other areas highly valued by the public. Public lands withdrawn from entry under the general mining laws and/or the mineral leasing laws.

Mineral exploration - The search for valuable minerals on lands open to mineral entry.

Mineral production - Extraction of mineral deposits.

Mineral soil - Weathered rock materials without any vegetative cover.

Minimum streamflows - A specified level of flow through a channel that must be maintained by the users of streams for biological, physical, or other purposes.

Mining claims - That portion of the public estate held for mining purposes in which the right of exclusive possession of locatable mineral deposits is vested in the locator of a deposit.

Mitigation - Actions to avoid, minimize, reduce, eliminate, or rectify the impact of a management practice.

MMBF - The abbreviation for million board feet, a unit of measure for timber volume.

MMCF - The abbreviation for million cubic feet, a unit of measure for timber volume.

Model - A representation of reality used to describe, analyze, or understand a particular concept. A "model" may be a relatively simple qualitative description of a system or organization, or a highly abstract set of mathematical equations.

Modification - A visual quality objective; man's activity may dominate the characteristic landscape but must concurrently use natural established form, line, color and texture. Activities should appear as natural occurrences when viewed in foreground or middleground.

Monitoring and evaluation - The periodic evaluation on a sample basis of Forest Plan management practices to determine how well objectives have been met and how closely management standards have been applied.

Mortality - Trees of commercial species, standing or down, that have died during a specified period, and were not cull trees at the time of death.

Mountain Pine Beetle - A tiny black insect, ranging in size from 1/8 to 3/4 inch, that bores its way into the tree's cambium and cuts off its supply of food, thus killing the tree.

Multiple Use - The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

National Environmental Policy Act (NEPA) - An Act to declare a National policy which will encourage productive and enjoyable harmony between man and his environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man, to enrich the understanding of the ecological systems and natural resources important to the Nation and to establish a Council on Environmental Quality.

National Forest Land and Resource Management Plan - A Plan developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all natural resource management activities and establishes management standards and guidelines for the National Forest System lands of a given National Forest.

National Forest landscape management system - The art and science of planning and administering the use of Forest lands in such ways that the visual effects maintain or upgrade man's psychological welfare. It is the planning and design of the visual aspects of multiple-use land management.

National Forest Management Act (NFMA) - A law passed in 1976 as an amendment to the Forest and Rangeland Renewable Resources Planning Act requiring the preparation of Regional Guides and Forest Plans and the preparation of regulations to guide that development.

National Forest System (NFS) lands - National Forests, National Grasslands, or purchase units, and other lands under the management of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

National Recreation Trails - Trails designated by the Secretary of the Interior or the Secretary of Agriculture as part of the National system of trails authorized by the National Trails System Act. National Recreation Trails provide a variety of outdoor recreation uses in or reasonably accessible to urban areas.

National Register of Historic Places - A listing (maintained by the U.S. National Park Service) of areas which have been designated as being of historical significance. The Register includes places of local and state significance as well as those of value to the Nation.

National Wilderness Preservation System - All lands covered by the Wilderness Act and subsequent Wilderness designations, irrespective of the department having jurisdiction.

Natural barrier - A natural feature that will restrict livestock movements, such as a dense stand of trees or downfall.

Natural catastrophic condition - A significant change in Forest conditions on the area that affects Forest Plan resource management objectives and their projected and scheduled outputs, uses, costs, and impacts on local communities and environmental quality.

Net public benefits - An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principles of multiple use and sustained yield.

No-action alternative - The most likely condition expected to exist in the future if current management direction were to continue unchanged.

Noncommercial forest land - Sites incapable of producing 20 cubic feet per acre per year or more of timber for industrial wood. This would include areas which are rocky, dry, steep, cliffy, or sterile soils, e.g.: slickrock country that has vegetation.

Noncommercial vegetative treatment - The removal of trees for other than timber production purposes.

Noncommodity outputs - Resource outputs that cannot be bought and sold.

Nonconsumptive use - That use of a resource that does not reduce the supply. For example, nonconsumptive use of water includes hydroelectric power generation, boating, swimming, and fishing.

Nondeclining flow - The principle expressed by the definition of the base sale schedule.

Nonforest land - Lands never having or incapable of having greater than 10 percent of the area occupied by forest trees, and lands formerly forested and currently developed for nonforest use.

Nongame - Species of animals which are not managed for sport hunting.

Nonpoint source pollution - Sources of pollution that are diffuse in origin, their transportation into receiving water not well defined or constant, their discharge occurring at many diffuse locations, and depending heavily on weather conditions such as rainstorms or snowmelt. Pollution from Forest management is of this type.

Nonmarket valued outputs - Goods and services not generally traded in the marketplace, but valued in terms of what reasonable people would be willing to pay for them rather than go without. Those obtaining the actual outputs do not necessarily pay what they would be willing to pay for them.

Nonmotorized management unit - Management of an area of land to meet long-term nonmotorized recreation objectives; but, where applicable, allow for designated routes, snowmobiles, existing contracts, minerals, protection and other valid activities conducted on a short-term or seasonal basis with the intent of closing and/or rehabilitating roads upon activity completion.

Notice of Intent - Written notice to the affected District Ranger, by those who intend to engage in mining activity on the Forest, of proposed prospecting, exploration, mining, and mineral processing activities. Also, a notice in the Federal Register of intent to prepare an Environmental Impact Statement on a proposed action.

Noxious weeds - A plant species that is undesirable. It conflicts, restricts, or otherwise causes problems with management objectives.

Nursery areas - Areas used for cover and forage by elk cows and calves until the calves are approximately six weeks old. These areas may be the same as calving areas or far removed from where birth occurred.

Objective - A concise, time-specific statement of measurable planned results that respond to preestablished goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals.

Occupancy trespass - The illegal occupation or possession of National Forest land or property.

Off-road vehicle (ORV) - Vehicles such as motorcycles, all-terrain vehicles, four-wheel drive vehicles, and snowmobiles.

Old growth - A stand of trees that is past full maturity and showing decadence; the last stage in forest succession.

Old growth habitat - Habitat for certain wildlife that is characterized by overmature coniferous forest stands with large snags and decaying logs.

Oligotrophic - Lakes having low nutrient supplies which are poor producers of organic matter.

Open road density - Miles of road per square mile of elk habitat which has not been administratively or physically closed to motor vehicles during the time elk occupy an area. This is calculated for forage and cover areas by compartment.

Operational costs - Those costs associated with administering and maintaining National Forest facilities and resource programs.

Operational Plan - A written document approved by the Forest Supervisor which provides specifically, at the project level, for implementation of the management direction established in the Forest Plan.

Opportunity - A statement of general actions, measures, or treatments that address a public issue or management concern in a favorable way.

Optimum - A level of production that is consistent with other resource requirements as constrained by environmental, social, and economically sound conditions.

Outputs - The goods, services, products, and concerns which are measurable and capable of being used to determine the effectiveness of programs and activities in meeting objectives. Goods, end products, or services that are purchased, consumed, or utilized directly by people. A broad term for describing any result, product, or service that a process or activity actually produces.

Overflow camping - Developed site camping that occurs in excess of designed site capacity.

Overmature timber - Trees that have attained full development, particularly in height, and are declining in vigor, health, and soundness.

Overstory - That portion of the trees, in a Forest or more than one story, forming the upper or uppermost canopy.

Paraprofessional - Paraprofessional cultural resource specialists usually work at the district level on small, routine surveys. They receive training up-dating in cultural resource management. they are supervised and their work is reviewed by a professional cultural resource specialist.

Partial retention - A visual quality objective; man's activities may be evident but subordinate to the characteristic landscape.

Particulates - Small particles suspended in the air and generally considered pollutants.

Patented mining claim - A patent is a document which conveys title to land. When patented, a mining claim becomes private property and is land over which the United States has no property rights, except as may be reserved in the patent. After a mining claim is patented, the owners does not have to comply with requirements of the General Mining Law or implementing regulations.

Payment in lieu of taxes - Payments to local or state governments based on ownership of federal land and not directly dependent on production of outputs or receipt sharing. Specifically, they include payments made under the Payments in Lieu of Taxes Act of 1976 by U.S. Department of the Interior.

Personal use - Normally used to describe the type of permit issued for removal of wood products (firewood, post, poles, and Christmas trees) from National Forest land when the product is for home use and not to be resold for profit.

Persons-at-one-time (PAOT) - A recreation capacity measurement term indicating the number of people who can use a facility or area at one time.

Person-year - Approximately 2,080 working hours. May be filled by one person working year long or several people filling seasonal positions.

Plan, The - The National Forest Land and Resource Management Plan (Forest Plan developed to direct the management of the Toiyabe National Forest.

Planned ignitions - A fire started by a deliberate management action.

Planning area - The area of National Forest land covered by a Regional Guide or Forest Plan.

Planning corridor - A general broad linear area of land used to evaluate where a specific right-of-way could be placed.

Planning criteria - Standards, tests, rules, and guidelines by which the planning process is conducted and upon which judgments and decisions are based.

Planning period - The 50-year time frame (1980-2030) for which goods, services, and effects were projected in the development of the Forest Plan.

Planning questions - A major policy question of long-range significance, derived from the public issues and management concerns, to be decided when selecting among alternative Forest Plans.

Planning records - A system that records decisions and activities which result from the process of developing a Forest Plan, revision, or significant amendment.

Pole/sapling - A Forest successional stage in which trees between five- and seven- inch diameter are the dominant vegetation.

Pole timber - Line trees of at least five inches in diameter at breast height, but smaller than the minimum utilization standard for sawtimber.

Policy - A guiding principle which is based on a specific decision or set of decisions.

Potential natural community (PNC) - See ecological status.

Practices - Those management activities that are proposed or expected to occur.

Precommercial thinning - The practice of removing some of the trees less than merchantable size from a stand so that the remaining trees will grow faster.

Predator - One that preys, destroys, or devours--usually an animal that lives by preying on other animals.

Preparatory cut - The removal of trees near the end of a rotation, which permanently opens the canopy and enables the crowns of seed bearers to enlarge, to improve conditions for seed production and natural regeneration. Typically done in the shelterwood system.

Prescribed fire - A wildland fire burning under specified conditions which will accomplish certain planned objectives. The fire may result from either planned or unplanned ignitions. Plans for use of unplanned ignitions for this purpose must be approved by the Regional Forester.

Preservation - A visual quality objective that allows for only ecological changes.

Presuppression - Activities organized in advance of fire occurrence to assure effective suppression action.

Primitive recreation - Those recreation activities which occur in areas characterized by an essentially unmodified natural environment of fairly large size.

Primitive roads - Roads constructed with no regard for grade control or designed drainage, sometimes by merely repeatedly driving over an area. These roads are single lane, usually with native surfacing and sometimes passable with four-wheel-drive vehicles only, especially in wet weather.

Productive Forest lands - Used under previous timber classification; Forest lands that are capable of producing crops of industrial wood and have not been reserved or deferred.

Production potential - The capability of the land or water to produce a given resource.

Program - When capitalized, the Renewable Resource Program required by the RPA. Generally, sets of activities or projects with specific objectives, defined in terms of specific results and responsibilities for accomplishment.

Program Budget - The fiscal planning document for estimating short- and long-range dollar needs by program area.

Program development and budgeting - The process by which activities for the Forest are proposed and funded.

Programmatic Inventory and Evaluation - Cultural resource inventory and evaluation conducted forest-wide to identify existing properties and to develop a National Register inventory. This is differentiated from project level compliance work in support of other resource activities.

Programmed harvest - The part of the potential yield that is scheduled for harvesting. It is based on current demand, funding, and multiple use considerations.

Project design - The process of developing specific information related to location, timing, activities, accountability, and control that result in the achievement of an objective or desired future condition.

Projects - Work schedule prescribed for a project area to accomplish management prescriptions. Projects can be for operation maintenance and protection (OMP) or for investment purposes. OMP projects are for ongoing work and are generally considered one year at a time. Investments can be of multi-year duration. A project is organized for managerial convenience, and is described by location, activities, outputs, effects, work force, dollars, time, and responsibility for execution.

Proper use criteria - The limiting factor or factors which will be measured on a particular site. It could be percent utilization of forage, percent ground cover, percent trampling damage, a measure of the allowable impact on other resources or uses, or any other measureable factor on a particular site.

Proposed action - In terms of the National Environmental Policy Act, the project, activity, or decision that a Federal agency intends to implement or undertake.

Public access - Usually refers to a road or trail route over which a public agency claims a right-of-way for public use.

Public issue - A subject or question of widespread public interest relating to management of the National Forest System.

Public participation - Meetings, conferences, seminars, workshops, tours, written comments, responses to survey questionnaires, and similar activities designed and held to obtain comments from the public about Forest Service planning.

Quad maps - Standard U.S. Geological Survey quadrangle maps.

Range - Embraces rangelands and also many forest lands which support an understory or periodic cover of herbaceous or shrubby vegetation amenable to certain range management principles or practices.

Range allotment - An area designated for use of a prescribed number and kind of livestock under one management plan.

Range condition - The current productivity of a range relative to what that range is naturally capable of producing.

Range condition class - One of a series of arbitrary categories used to classify range condition and usually expressed as either excellent, good, fair, or poor.

Ranger District - Administrative subdivisions of the Forest supervised by a District Ranger who reports to the Forest Supervisor.

Raptor - Bird of prey with a strong notched beak and sharp talons, such as the eagle, hawk, owl, etc.

Real dollar value - A monetary value that compensates for the effects of inflation.

Record of Decision (ROD) - A document separate from but associated with an Environmental Impact Statement that publicly and officially discloses the responsible official's decision on which alternative assessed in the Environmental Impact Statement to implement.

Recreation capacity - The number of people that can take advantage of the recreation opportunity at any one time without substantially diminishing the quality of the experience sought after.

Recreation experience level - A classification (using a 1 to 5 scale) of the level of development in camp and picnic sites as to the types of recreation opportunities and modifications to the environment that can be expected.

Recreation Information Management (RIM) - The Forest Service system for recording recreation facility condition and use.

Recreation management area - An area of several thousand acres where the management emphasis is on recreation and where there is direction given to establish a Recreation Area Management Plan.

Recreation opportunity - Availability of a real choice for a user to participate in a preferred activity within a preferred setting, in order to realize those satisfying experiences which are desired.

Recreation Opportunity Spectrum (ROS) - A method of measuring the ability of the Forest land to meet the various types of demands imposed by a variety of recreation uses. Provides a framework for defining types of outdoor recreation; expressed by three principal components - the activity opportunity, the setting opportunity, and the experience opportunity. ROS classes are Primitive, Semi-Primitive Nonmotorized, Semi-Primitive Motorized, Roaded Natural, Rural.

Recreation visitor day (RVD) - Twelve visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons.

Reduced service management - Management of developed recreation facilities below optimum maintenance standards. The administration, operation, and maintenance of developed sites (except VIS) at a level below established standards and management objectives.

Reforestation - The natural or artificial restocking of an area with forest trees.

Regeneration - The renewal of a tree crop, whether by natural or artificial means. Also, the young crop itself, which commonly is referred to as reproduction.

Region - For Regional planning purposes, the standard administrative Region of the Forest Service, administered by the official responsible for preparing a Regional Guide.

Regional Forester - The official responsible for administering a single Region.

Regional Guide - The guide developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all natural resource management activities and establishes management standards and guidelines for the National Forest System lands of a given Region. It also disaggregates the RPA objectives assigned to the Region to the Forests within that Region.

Regulations - Generally refers to the Code of Federal Regulations, Title 36, Chapter II, which covers management of the Forest Service.

Rehabilitation - A short-term management activity used to return visual impacts in the natural setting to a desired visual quality.

Removal cut (final cut) - The removal of the last seed bearers or shelter trees after regeneration is established under a shelterwood method.

Research Natural Areas (RNA) - An area in as near a natural condition as possible which exemplifies typical or unique vegetation and associated biotic, soil, geologic, and aquatic features. The area is set aside to preserve a representative sample of an ecological community primarily for scientific and educational purposes; commercial and general public use is not allowed.

Residual stand - The trees remaining standing after some event such as selection cutting.

Resource allocation model - A mathematical model using linear programing which will assign land to prescriptions and schedule implementation of those prescriptions simultaneously. The purpose of the model is to find a schedule and assignment that meets the goals of the Forest and optimizes some objective function such as "minimize costs."

Resource element - A major Forest Service mission-oriented endeavor which fulfills statutory or executive requirements and compromises a collection of activities from the various operating programs required to accomplish the mission. The eight resource elements are: recreation, wilderness, wildlife and fish, range, timber, water, minerals, and human and community development.

Resource Management Plan (RMP) - A Plan developed prior to the Forest Plan that outlines the activities and projects for a particular resource element independently of considerations for other resources. Such Plans are superseded by the Forest Plan.

Resource Value Rating - Measure of range condition based composite rating of vegetations and soils.

Responsible official - The Forest Service employee who has been delegated the authority to carry out a specific planning action.

Retention - A visual quality objective; a condition in which man's activities are not evident to the casual forest visitor.

Right-of-way - An accurately located strip of land with defined width, point of beginning, and point of ending; the area within which the user has authority to conduct operations approved or granted by the landowner in an authorizing document, such as a permit, easement, lease, license, or Memorandum of Understanding.

Riparian - Areas of land that are directly influenced by water. Riparian areas usually have visible vegetative or physical characteristics reflecting this water influence. Stream sides, lake borders, or marshes are typical riparian areas.

Riparian Area Dependent Resource - These are resources that owe their existance to the Riparian Area.

Riparian Area - Geographically delineated areas, with distinctive resource values and characteristics that are comprised of the aquatic and riparian ecosystems, floodplains (fifty-year flood), and wetlands.

Riparian ecosystems - A transition between the aquatic ecosystem and the adjacent upland terrestrial ecosystem and is identified by soil characteristics and distinctive vegetation communities that require free or unbounded water.

Road - A general term denoting a way for purposes of travel by vehicles greater than 40 inches in width.

Road impact rating - A subjective rating of road use intensity and "out-of-the-vehicle" human activity involved in a compartment.

a. Low Impact Road - Generally less than 10 vehicles per week and/or little "out-of-the-vehicle" human activity involved.
b. Moderate Impact Road - Between 10 and 30 vehicles per week and/or moderate "out-of-the-vehicle" human activity involved.
c. High Impact Road - Greater than 30 vehicles per week and/or moderate "out-of-the-vehicle" human activity involved.

Road maintenance levels - Levels are described as follows:

Level 1. Road normally closed to vehicle traffic.
Level 2. Road open for limited passage of traffic but not normally suitable for passenger cars.
Level 3. Road open for public traffic including passenger cars, but may not be smooth or comfortable.
Level 4 Road suitable for all types of vehicles, generally smooth to travel, and dust may be controlled.
Level 5. Road is smooth and dust free, and the surface is skid resistant if paved.

Roaded Natural - A classification of the recreation opportunity spectrum that characterizes a predominately natural environment with evidence of moderate permanent alternate resources and resource utilization. Evidence of the sights and sounds of man is moderate, but in harmony with the natural environment. Opportunities exist for both social interaction and moderate isolation from sights and sounds of man.

Roadless Area Review and Evaluation II (RARE II) - The national inventory of roadless and undeveloped areas within the National Forest and Grasslands. This refers to the second such assessment, which was documented in the Final Environmental Impact Statement of the Roadless Area Review and Evaluation, January 1979.

Rotation - The planned number of years between the formation of a regeneration of trees and its final cutting at a specified stage of maturity.

Roundwood - Timber and fuelwood prepared in the round state--from felled trees to material trimmed, barked, and crosscut (logs, transmission poles, etc.).

RPA - Forest and Rangeland Renewable Resource Planning Act of 1974.

Rural - A recreation opportunity spectrum classification for areas characterized by a substantially modified natural environment. Sights and sounds of man are evident. Renewable resource modification and utilization practices enhance specific recreation activities or provide soil and vegetative cover protection.

Sale schedule - The quantity of timber planned for sale by time period from an area of suitable land covered by a Forest Plan. The first period, usually a decade, of the selected sale schedule provides the allowable sale quantity. Future periods are shown to establish that long-term sustained yield will be achieved and maintained.

Salvage cutting - The exploitation of trees that are dead, dying, or deteriorating because they are overmature or have been materially damaged by fire, wind, insects, fungi, or other injurious agencies, before their timber becomes worthless.

Sanitation cutting - The removal of dead, damaged, or susceptible trees, done primarily to prevent the spread of pests or pathogens and so promote Forest hygiene.

Satisfactory Range Condition - Land that has a resource value rating of 50 or above, or being in a moderate or ecological status and having a stable or upward trend.

Sawtimber - Live trees that equal or exceed the minimum utilization standard for sawtimber.

Scenic areas - Places of outstanding or matchless beauty which require special management to preserve these qualities. They may be established under 36 CFR 294.1 whenever lands possessing outstanding or unique natural beauty warrant this classification.

Scenic easement - An interest in the land of another which allows the easement holder specified uses or rights without actual ownership of the land. In many cases, a scenic easement provides control of the use of land adjacent to public highways, parks, and rivers.

Scoping process - The public land management activities used to determine the range of actions, alternatives, and impacts to be considered in an Environmental Impact Statement.

Second growth - Forest growth that has become established after some interference with the previous Forest crop; e.g., cutting, serious fire, or insect attack.

Security area - Habitat which, because of its size, topography, vegetation, and limited access, is capable of holding elk during periods of stress, particularly during the big-game hunting season.

Sediment - Any material transported, suspended, or deposited by water.

Seed tree cutting - Removal in one cut of the mature timber crop from an area, except for a small number of seed bearers left singly or in small groups.

Seedlings and saplings - Live trees less than five inches in diameter at breast height.

Selection cutting - The annual or periodic removal of trees (particularly mature trees), individually or in small groups, from an uneven-aged forest, to realize the yield and establish a new crop or irregular constitution.

Semi-primitive motorized - A classification of the recreation opportunity spectrum characterized by a predominantly unmodified natural environment in a location that provides good to moderate isolation from sights and sounds of man except for facilities/travel routes sufficient to support motorized recreational travel opportunities which present at least moderate challenge, risk, and a high degree of skill testing.

Semi-primitive nonmotorized - A classification of the recreation opportunity spectrum characterized by a predominately unmodified natural environment of a size and location that provides a good to moderate opportunity for isolation from sights and sounds of man. The area is large enough to permit overnight foot travel within the area and presents opportunity for interaction with the natural environment with moderate challenge, risk, and use of a high degree of outdoor skills.

Sensitive species - Plant or animal species which are susceptible or vulnerable to activity impacts or habitat alterations.

Sensitivity analysis - A determination of the effects of varying the level of one or more factors, while holding the other factors constant.

Sensitivity level - A particular degree of measure of viewer interest in scenic qualities of the landscape. Three sensitivity levels are employed, each identifying a different level of user concern for the visual environment.

Level 1 - Highest sensitivity
Level 2 - Average sensitivity
Level 3 - Lowest sensitivity

Shade-intolerant plants - Plant species that do not germinate or grow well in the shade.

Shade-tolerant plants - Plants that grow well in shade.

Shelterwood - The cutting method that describes the silvicultural system in which, in order to provide a source of seed and/or protection for regeneration, the old crop (the shelterwood) is removed in two or more successive shelterwood cuttings. The first cutting is ordinarily the seed cutting, though it may be preceded by a preparatory cutting, and the last is the final cutting. Any intervening cutting is termed removal cutting. An even-aged stand results.

Seral condition - The unique characteristics of a biotic community which is a developmental, transitory stage in an orderly ecologic succession involving changes in species, structure, and community processes with time.

Shrub/seedling - A mid to late Forest successional stage in which shrubs and seedling trees are the dominant vegetation.

Sight distance - The distance at which 90 percent or more of a deer or elk is hidden from an observer. Hiding cover exists when 90 percent or more of a standing deer or elk is hidden at a distance of 200 feet or less.

Silvicultural examination - The process used to gather the detailed in-place field data needed to determine management opportunities and direction for the timber resource within a small subdivision of a Forest area such as a stand.

Silvicultural system - A management process whereby Forests are tended, harvested, and replaced, resulting in a Forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of Forest thereby produced.

Single-tree selection - See "Individual (single) tree selection."

Site index - A numerical evaluation of the quality of land for plant productivity.

Site preparation - A general term for removing unwanted vegetation, slash, roots, and stones from a site before reforestation.

Site productivity - Production capability of specific areas of land.

Size class - For the purposes of Forest planning, size class refers to the intervals of tree stem diameter used for classification of timber in the Forest Plan data base.
- less than 5-inch diameter = seedling/sapling
- greater than 7-inch diameter = sawtimber

Skidding - A loose term for hauling loads by sliding, not on wheels, as developed originally from stump to roadside, deck, skidway, or other landing.

Slash - The residue left on the ground after timber cutting and/or accumulating there as a result of storm, fire, or other damage. It includes unused logs, uprooted stumps, broken or uprooted stems, branches, twigs, leaves, bark, and chips.

Small game - Birds and small mammals which can be hunted or trapped.

Snag - A nonliving standing tree. The interior of the snag may be sound or rotted.

Social analysis - a phase in the Forest planning process which (1) identifies groups (whether formally organized or not) which may be affected by or have an interest in planning decisions; (2) gathers and quantifies (objectively when possible) both the preferences of these groups and the possible effects of proposed alternatives on these groups; (3) evaluates the role of social group preferences and consequences in resource assignment decisions; and (4) determines how a given plan should be formulated (or adjusted) to respond to these evalutions.

Society of American Foresters (SAF) forest and cover types - A forest type is a descriptive term used to group stands of similar character in regards to composition and development due to given ecological factors, by which they may be differentiated from other groups of stands. The term suggests repetition of the same character under similar conditions. A cover type is a forest type now occupying the ground, no implication being conveyed as to whether it is temporary or permanent.

Soil disturbance - The mechanical movement of the top layer of soil downslope as a result of livestock grazing. The movement of this layer of soil not only results in a net loss of topsoil but is very damaging to the plants and ground cover. Damage to the plants is characterized by burying, exposure of roots, uprooting seedlings and young plants, and breaking of the tough surface shield made up of roots and organic matter that gives the site its stability under pristine conditions.

Soil productivity - The capacity of a soil to produce a specific crop such as fiber, forage, etc., under defined levels of management. Productivity is generally dependent on available soil moisture and nutrients and length of growing season.

Soil resource commitment (total and/or essentially total) - A conversion of a productive site to an essentially nonproductive site for a period of more than 50 years. Inadequately restored haul roads, truck roads, landing areas as well as higher standard roads (system or nonsystem), and some stock driveways generally represent an essentially total commitment of the soil resource. Productivity on these areas ranges from 0 to 40 percent of natural.

Soil surveys - Systematic examinations of soils in the field and in laboratories; such examinations are at differing "orders" and interpretation according to their adaptability for various crops, grasses, and trees; there are five classed orders of surveys, with order 1 being the highest intensity.

Soil Loss Tolerence - Maximum rate of soil erosion that will still permit the maintenance of vegetative productivity to be sustained indefinitely.

Sound wood - Timber that is free from defect, damage, or decay; i.e., in solid, whole, good condition.

Special Use Pastures - Areas of National Forest System land which cannot be logically managed as a grazing allotment or as part of an allotment because of location, size, adjacent ownership, or topography. They provide grazing or holding areas for livestock and may be made available for grazing use at the convenience of the permittee. Special use pastures are usually fenced and may be improved or unimproved. Pastures may be seeded to high quality native or introduced forage species and undesirable species may be controlled by various means.

Special Use Permit - A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of National Forest land for some special purpose.

Spring break-up - The time of year when roads break up due to melting frost and ice, generally from the first of March to the middle of April.

Stand (tree stand) - An aggregation of trees or other vegetation occupying a specific area and sufficiently uniform in composition (species), age arrangement, and condition as to be distinguishable from the Forest or other vegetation or other land cover on adjoining areas. Ecological - a group of plants together on a contiguous area.

Stand examination surveys - Procedures consisting of seven types of surveys used to collect data on Forest stands. Types 1 through 4 are conducted by using intensive specified standard procedures. Types 5 through 7 are less intensive examinations consisting of modifications to procedures used in Type 1 through 4 surveys.

Stand size class - A classification of forest land based on the predominant size of trees present; that is, sawtimber, poletimber, seedling-sapling.

Standard and Guideline - Principles specifying conditions or levels to be achieved.

State Air Quality Regulations - The legal base for control of air pollution sources in that state. Prescribed burning is generally covered under these regulations.

State Implementation Plan - A State Plan that covers implementation, maintenance, and enforcement of primary and secondary standards in each air quality control region, pursuant to Section 110 of the Clean Air Act.

Strategic minerals - Those minerals of which the U.S. imports 50 percent or more from foreign sources (based on 1978 U.S. Bureau of Mines figures).

Stratification - A land-use planning concept which subdivides a study area into units which contain the same characteristics.

Stream - A water course having a distinct natural bed and banks; a permanent source which provides water at least periodically; and at least periodic or seasonal flows at times when other recognized streams in the same area are flowing.

Successional stage - A stage or recognizable condition of a plant community that occurs during its development from bare ground to climax; for example, coniferous forests commonly progress through six recognized stages: bare ground, grass-forb, shrub-seedling, pole-sapling, young; mature, and old growth.

Suitability - The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit land may be suitable for a variety of individual or combined management practices. See also "Timber classification."

Suitability analysis - Process of identifying lands to be managed for timber production. Stage 1 identifies the biologically capable, administratively available, and technically suitable lands. Stage II consists of an economic analysis of costs and benefits of timber management on the lands identified in Stage I. Stage III provides the final assignment of suitable lands based on Forest objectives and economic efficiency. Stages II and III are completed with the FORPLAN model.

Suitable Forest land - Lands assigned to timber management as a result of the three-stage suitability analysis.

Supply - A schedule of the quantity of a product or Forest output that will be produced at various prices.

Supply potential - The output production possible from the available resources.

Suppression - An act extinguishing or confining fire.

Surface resources - Renewable resources located on the earth's surface in contrast to ground water and mineral resources located below the earth's surface.

Sustained yield of products and services - The achievement of maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest without impairment of the productivity of the land.

Targets - A quantifiable output. Assignments made to the Forest by the Regional Forester.

Technically suitable Forest land - Land for which technology is available that will ensure timber production without irreversible resource damage to soils, productivity, or watershed conditions. There is reasonable assurance that such lands can be adequately restocked as provided in 36 CFR 219.13 (h)(3).

Temporary road - A road that will be physically obliterated and seeded after its primary use is completed; i.e., spur road for logging.

Thematic Inventory and Evaluation - Cultural resource inventory and evaluation to identify properties belonging to groups which exhibit similar characteristics: e.g., CCC era structures, mining towns of the period 1860 to 1900, etc..

Thermal cover - Cover used by animals to ameliorate effects of weather; for elk, a stand of coniferous trees 40 feet or taller with an average crown closure or 70 percent or more.

Thinning - A felling made in an immature stand primarily to maintain or accelerate diameter increment and also to improve the average form of the remaining trees without permanently breaking the canopy. An intermediate cutting.

Threatened species - Those plant or animal species likely to become endangered species throughout all or a significant portion of their range within the foreseeable future.

Tiering - Refers to the coverage of general matters in broader Environmental Impact Statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basin-wide program statements or ultimately site-specific statements) incorporating, by reference, the general discussions and concentrating solely on the issues specific to the statement subsequently prepared.

Timber base - The lands within the Forest capable, available, and suitable for timber production.

Timber harvest schedule - See "Sale schedule."

Timber production - The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use. For purposes of Forest planning, the term "timber production" does not include production of fuelwood or harvest of unsuitable lands.

Timber stand improvement (TSI) - Measures such as thinning, pruning, release cutting, prescribed fire, girdling, weeding, or poisoning of unwanted trees aimed at improving the growing condition of the remaining trees.

Tractor logging - Any logging method which uses a tractor as the motor power for transporting logs from the stumps to a collecting point--whether by dragging or carrying the logs.

Tradeoff Evaluation Process (TEP) - A process whereby factors, issues, elements, etc., are evaluated with regard to the trade-offs that would occur.

Trail maintenance level - One of the categories outlined in the Management Information Handbook describing the type and intensity of maintenance for trails.

Transitory range - Land that is suitable for grazing use of a nonenduring nature over a period of time. For example, on particularly disturbed lands, grass may cover the area for a period of time before being replaced by trees or shrubs not suitable for forage.

Travel management - The administrative decisions on the location and timing of road and trail closures.

Treatment area - The site-specific location of a resource improvement activity.

Tree opening - An opening in the forest cover created by the application of even-aged silvicultural practices.

Type conversion - The conversion of the dominant vegetation in an area from forested to nonforested, or from one tree species to another.

Understory - The trees and other woody species growing under a more-or-less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.

Uneven-aged management - The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single tree selection and group selection.

Uneven-aged silviculture systems - The combination of action that results in the creation of forests or stands of trees, in which trees of several or many ages grow together. Cutting methods that develop and maintain uneven-aged stands are individual tree and group selecting cutting methods:

Individual tree selection cutting. The removal of selected trees of all size classes on an indiviudal basis.

Group selection cutting. The removal of selected trees of all size classes in groups of a fraction or an acre up to two or three acres in size.

Unpatented mining claim - See "Mining claim."

Unplanned ignition - A fire started at random by either natural or human causes, or a deliberate incendiary fire.

Unregulated harvest - This harvest is not charged against the allowable sale quantity, and includes occasional volumes removed that were not recognized in calculations of the allowable sale quantity, such as cull or dead material, and noncommercial species and products. It also includes all volume removed from nonsuitable areas. Harvests from nonsuitable areas will be programed as needed for objectives such as research on experimental Forests, to meet multiple-use objectives other than timber production, and for improvement of Administrative Sites.

Unroaded - Acres to remain unroaded at the end of the first decade (any specified decade) and not designated as wilderness. Roads will not be constructed to manage the surface resource; however, this acreage is not withdrawn from mineral entry. Mineral activity may require the construction of roads but these will be kept to a minimum.

Unsuitable forest lands - Forest land that is not managed for timber production because: (1) the land has been withdrawn by Congress, the Secretary of Agriculture, or Chief of the Forest Service; (2) technology is not available to prevent irreversible damage to soils, productivity, or watershed conditions; (3) there is no reasonable assurance that lands can be adequately restocked within five years after final harvest based on existing technology and knowledge; (4) there is presently a lack of adequate information or responses to timber management activities; or (5) timber management is inconsistent with or not cost-efficient in meeting the management requirements and multiple-use objectives specified in the Forest Plan.

Utilization standards - Standards guiding the projection of timber yields and the use and removal of timber. The standards are described in terms of minimum diameter at breast height, minimum length, and percent soundness of the wood, as appropriate.

Variety class - A classification system for establishing three visual landscape categories according to the relative importance of the visual features. This classification system is based on the premise that all landscapes have some visual values, but those with the most variety or diversity of visual features have the greatest potential for high scenic value.

Vegetative management, timber - Activities designed primarily to promote the health of the Forest cover for multiple-use purposes. Ecological - Management related to physiological requirements of plants.

Vertical diversity - The diversity in a stand that results from the complexity of the above-ground structure of the vegetation; the more tiers of vegetation.

Visual absorption capability - The ability of the landscape to conceal evidence of human modifications. Rated as high, moderate, and low.

Viable populations - A number of individuals of a species sufficient to ensure the long-term existence of the species in natural self-sustaining populations adequately distributed throughout their region.

Visitor Information Service (VIS) - Activities which interpret for visitors, in layman's language, Forest management, protection, utilization, and research. It also includes interpreting the local botany, geology, ecology, zoology, history, and archaeology.

Visual quality objective (VQO) - Categories of acceptable landscape alteration measured in degrees of deviation from the natural appearing landscape.

- Retention (R) - Ecological change only here.
- Partial Retention (PR) - Human activities should not be evident to the casual Forest visitor.
- Modification (M) - Human activity may dominate the characteristic landscape but must, at the same time, follow naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middleground.
- Maximum Modification (MM) - Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.
- Enhancement - A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists.

Visual resource - The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors.

Water rights - Rights to divert and use water or to use it in place.

Water yield - The measured output of the Forest's streams.

Water yield increase - Additional water released to the Forest streams as a result of Forest management activities.

Watershed - The entire area that contributes water to a drainage system or stream.

Wetlands - Areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetative or aquatic life (which requires saturated or seasonally saturated soil conditions for growth and reproduction).

WFUD - Wildlife and Fish User Days. WFUDs are the same as recreation activity occassions. They are calculated by converting RVDs to activity hours (RVD x 12) and then dividing by the regional activity duration factors.

Wilderness - Areas designated by congressional action under the 1964 Wilderness Act. Wilderness is defined as undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions, which generally appear to have been affected primarily by the forces of nature with the imprint of man's activity substantially unnoticeable; have outstanding opportunities for solitude or a primitive and unconfined type of recreation; include at least 5,000 acres or is of sufficient size to make practical their preservation, enjoyment, and use in an unimpaired condition; and may contain features of scientific, educational, scenic, or historical value as well as ecologic and geologic interest.

Under the current management situation, roadless areas will be handled in the Forest Plan as follows:

1. Nonwilderness roadless areas - On February 1, 1983, the Secretary of Agriculture made a decision to reevaluate RARE II roadless areas as a result of the Ninth Circuit Court of Appeals decision in California v. Block. Pending any legislative changes, the reevaluation will be conducted during the Forest land and resource management planning process and will include, in addition to further planning areas, roadless areas recommended for wilderness in RARE II and areas that were administratively designated for nonwilderness uses. Activities in nonwilderness areas will continue under existing Plans, pending completion of the Forest Plans.

2. Wilderness and primitive areas - These areas will be managed to protect their wilderness characteristics as provided for through the Wilderness Act of 1964 and subsequent designating legislation.

3. Recommended wilderness - These areas have already been recommended as suitable for inclusion as wilderness areas through the RARE II process but will be reevaluated in Forest planning. These areas may be considered for designation by Congress prior to completion of the Forest Plans.

4. Further planning areas - These areas will be considered for wilderness or nonwilderness during the development of Forest Land and Resource Management Plans. Decisions on the suitability or unsuitability of the areas for wilderness designation will be made in the Forest Plan. Suitable areas will be recommended to Congress for inclusion in the National Wilderness Preservation System. (The matter goes before Congress for final decision.) If not found suitable, Congress will be notified by letter of a decision of unsuitability in the Forest Plan. A 90-day waiting period is necessary while Congress is in session before a decision of unsuitability can be implemented.

Interim management direction for recommended wilderness and further planning areas protects their wilderness characteristics until the final decisions are made. The areas are not available for timber harvest, road construction, or other activities that reduce wilderness potential. Entry into the areas for the exploration, development, and production of minerals is permitted under the 1872 mining laws. Mineral leasing in further planning areas includes a stipulation that requires a sequential review and approval of operations. This requires confirmation that succeeding operations are warranted by information collected in the preceding stage.

Wildfire - Any wildland fire that is not a prescribed fire.

Wildlife habitat diversity - The distribution and abundance of different plant and animal communities and species within a specific area.

Wildlife habitat effectiveness - The character of locations where wildlife are not disturbed by human activities.

Window - A critical segment of terrain through which a transportation or utility right-of-way could pass in traversing from point of origin to destination.

Withdrawal - An order removing specific land areas from availability for certain uses.

Wood fiber production - The growing, tending, harvesting, and regeneration of harvestable trees.

Woodland - Communities composed of trees with a canopy of 26 to 60 percent at maturity. Includes woodland wetlands, open-forests, pinyon-juniper, and the like.

Work center - A facility where crews assemble and are directed toward their various work assignments. A work center can be located at an administrative site. A work center normally will include storage and warehousing facilities and may include crew housing.

Xeric - A soil moisture regime common to climates that have moist, cool winters and warm, dry summers. Some moisture is present but does not occur at optimum levels for plant growth. Irrigation or summer fallow is often necessary for crop production.

Yarding - Hauling timber from the stump to a collection point.

Year-round economies - Economies based on employees working year-round as opposed to seasonal employment.

Zone of influence (ZOI) - The area influenced by Forest Service management activities.

X. APPENDIXES

APPENDIX A

F130 ADMINISTATIVE SITES

MIH CODE	ADMINISTRATIVE SITE	DISTRICT	MANAGEMENT AREA	REMARKS
	RENO WAREHOUSE & W.C.	SO	2	Existing site and buildings to be phased out by Fiscal Year (FY) 1986, and co-located with the Supervisor's Office.
	SUPERVISOR'S OFFICE	SO	2	Property acquired in fee in FY-1985. Warehouse and work center facilities to be constructed on site by FY-1986.
	DOG VALLEY A.S. & W.C.	01	1	Replace the existing facilities at a new site. Evaluation will be done in FY-1985.
	VERDI A.S.	01	1	Will be evaluated as a part of the Dog Valley study.
	CARSON DISTRICT OFFICE	01	2	Expansion of existing facility planned. Project data has been submitted in budget process.
	CLEAR CREEK JCCC	01	2	All facilities on site will transferred by deed to the State of Nevada.
	MINDEN WHSE & W.C.	01	2	Existing facility will be retained.
	WOODFORDS A.S.	01	3	Available property will be evaluated for retention or disposal in FY-1986.
	MARKLEEVILLE A.S. & HELIPORT	01	3	Existing facilities will be evaluated in FY-1986 for retention or relocation.
	LEVIATHAN LOOKOUT	01	3	Existing facility will be retained.
	SODA SPRINGS G.S.	01	5	Existing site will be retained for use and administration of the Carson-Iceberg Wilderness.
	CONNELLS COW CAMP	01	5	Existing site will be retained. Maintenance responsibilities will be transfered to the permittee and California Fish and Game.
	PAIUTE MEADOW CABIN	02	4	Existing site will be retained. Replace corral and pasture fence.
	WHEELER G.S.	02	4	Existing facilities will be retained. A bunkhouse facility and upgrading of the sewer system is proposed.
	BRIDGEPORT HELIPORT	02	4	Proposed for relocation to the Bridgeport airport.
	BRIDGEPORT HOUSING	02	6	Retain existing facilities. Reconstruct access and interior roads.
	BRIDGEPORT WHSES. & W.C.	02	5	Leased site will be evaluated for continuation of lease, or other options.
	BRIDGEPORT DISTRICT OFFICE	02	6	Leased site will be evaluated in conjunction with the warehouse and work center.
	AUSTIN RANGER DWELLING	03	8	Existing site will be retained and maintained.

MIH CODE	ADMINISTRATIVE SITE	DISTRICT	MANAGEMENT AREA	REMARKS
	AUSTIN WHSE & W.C.	03	8	A project has been developed to constuct additional Government housing, warehouse space, and storage area on Government property in and near Austin.
	AUSTIN DISTRICT OFFICE	03	8	Leased site will be evaluated for continuation of lease, or acquiring title.
	KINGSTON A.S.	03	8	Existing site and facilities will be retained.
	SAN JUAN G.S.	03	8	Existing site and facilities will be retained.
	REESE RIVER A.S.	03	8	Water system and electrical upgrading on existing site.
	CORRAL CANYON A.S.	03	9	Existing site will be retained. Construct 2 room cabin, and pit toilet.
	STONEBERGER CORRAL G.S.	03	9	Existing site will be retained. Existing trailer will be removed and a small cabin constructed.
	CHARNAC G.S.	03	10	Existing site will be retained. Trailer will be replaced by a new small cabin.
	BLACKBURN G.S	03	10	Site will be abandoned and existing facilities will be removed except for the historic cabin which will remain.
	LITTLE FISHLAKE VALLEY A.S.	03-4	10	Develop A.S. for use by D-3 & D-4. Construct 2 room cabin, pit toilet and fencing for pasture area.
	SAVORY G.S.	03	10	Site will be abandoned and the existing facilities will be removed.
	STONECABIN G.S.	04	8	Existing site and facilities will be retained.
	SMOKY VALLEY A.S.	04	8	Existing site will be retained. Existing unserviceable trailers will be removed from the site.
	LITTLE MEADOWS G.S.	04	8	Existing site will be retained. Existing unserviceable trailers will be removed from the site and replaced with 2 room cabin.
	PEAVINE G.S.	04	8	Existing site will be retained. Pasture will be re-established and corral maintained. Site will be developed for lodging needs.
	MEADOW CANYON A.S.	04	9	Existing site will be retained. Existing unserviceable trailer will be removed and replaced with 2 room cabin.
	BARLEY CREEK G.S.	04	10	Existing site will be retained. Existing trailer will be removed, and replaced with a 2 room cabin and pasture and corral maintained.
	SCUFFIES G.S.	04	10	Existing site will be retained. Existing tent pad and pasture will be retained.
	WILLOW CREEK G.S.	04	10	Two existing unserviceable trailers will be removed. The pasture will be retained for continued use. A tent frame skeleton will be constructed.

MIM CODE	ADMINISTRATIVE SITE	DISTRICT	MANAGEMENT AREA	REMARKS
	HUNTS CANYON G.S.	04	10	Existing site will be retained.
	COTTONWOOD ADMIN. SITE	04	10	Abandon site and remove structures.
	DANVILLE ADMIN. SITE	04	10	Abandon site and remove fence.
	TONOPAH DISTRICT OFFICE	04	8	Acquire land within city limits, construct office.
	TONOPAH RANGER DWELLING	04	8	Retain site and upgrade dwelling and garage.
	TONOPAH WHSE & W.C.	04	8	Retain existing site and facilities. Find an alternative site for other federal agencies to store trailers and other equipment.
	SANDIA HOUSES	04	8	Retain structures and provide heavy maintenance.
	HOUSE ON MAGNOLIA ST.	04	8	Retain house and provide heavy maintenance.
	BARRACKS #104	04	8	Retain structure.
	BARRACKS #105	04	8	Convert structure into storage warehouse. Consider site for exchange.
	LEE CANYON G.S.	05	11	Construct bunkhouse building, water and sewer system.
	KYLE CANYON A.S & W.C.	05	11	Retain existing site. Construct barracks to replace existing trailers. Reconstruct water and sewer systems, and construct a warehouse facility. Provide adequate access and parking for the public.
	LAS VEGAS DISTRICT OFFICE	05	11	Retain existing G.S.A.-leased facility. Evaluate relocation to other federal lands or acquiring a site.

APPENDIX B

APPENDIX B

SPECIAL STIPULATIONS FOR MINERAL LEASES

The following are special stipulations for lands of the National Forest System under the jurisdiction of the Department of Agriculture and are necessary to protect specific resource values on the lease area. If found to be in the public interest, these stipulations may be made less restrictive when specifically approved in writing by the authorized officer of the Bureau of Land Management and the authorized officer of the federal surface management agency.

1. All of the land in this lease is included in (recreation or special area, etc.). Therefore, no occupancy or disturbance of the surface of the land described in this lease is authorized. The lessee, however, may exploit the oil and gas resources in this lease by directional drilling from sites outside this lease. If a proposed drilling site lies on land administered by the Bureau of Land Management, or by the Forest Service, a permit for use of the site must be obtained from the BLM District Manager or the Forest Service District Ranger, before drilling or other development begins.

2. No access or work trail or road, earth cut or fill, structure or other improvement, other than an active drilling rig, will be permitted if it can be viewed from a (road, lake, river, etc.).

3. No occupancy or other activity on the surface of (legal subdivision) is allowed under this lease.

4. No occupancy or other surface disturbance will be allowed within __________ feet of __________)road, trail, river, creek, canal, etc.). This distance may be modified when specifically approved in writing by the authorized officer, Bureau of Land Management with the concurrence of the authorized officer of the federal surface management agency.

5. No drilling or storage facilities will be allowed within __________ feet of (live water, the reservoir, the archeological site, the historical site, the paleontological site, etc.). This distance may be modified when specifically approved in writing by the authorized officer of the Bureau of Land Management with the concurrence of the authorized officer of the federal surface management agency.

6. No occupancy or other surface disturbance will be allowed on slopes in excess of ________ percent, without written permission from the authorized officer, Bureau of Land Management, with the concurrence of the authorized officer of the federal surface management agency.

7. In order to (minimize watershed damage, protect important seasonal wildlife habitat, etc.) exploration, drilling, and other development activity will be allowed only during the period from ________________ to ________________, during dry soil period, over a snow cover, on frozen ground.) This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any

year may be specifically authorized in writing by the authorized officer with the Bureau of Land Management, with the concurrence of the authorized officer of the federal surface management agency.

8. In order to minimize watershed damage during muddy and/or wet periods, the authorized officer of the federal surface management agency, through the authorized officer of the Bureau of Land Management, may prohibit exploration, drilling, or other development. This limitation does not apply to maintenance and operation of producing wells.

9. The ____________ (Trail/Road) will not be used as an access road for activities on this lease, except as follows: (No exceptions, weekdays during recreation season, etc.).

10. No occupancy or other activity on the surface of the following described lands is allowed under this lease:

Reasons for this restriction are:

Examples of appropriate reasons for this restriction are:

1. Steep slopes.
2. Specific ecosystem, ecological land unit, land type or geologic formation which presents hazards such as failure.
3. Roadless or essentially roadless area (includes Chevron and Rainbow stipulations).
4. Special management units such as: Recreation Type I, water supply, administrative site, etc.

( ) Approximately % of lease

Note: This stipulation could be used in place of stipulation nos. 1, 3, and 6.

11. No ____________________ will be allowed within _______ feet of the ______________. This area contains _____________ acres and is described as follows:

Reasons:

First blank to be filled in with one or more of the following: drilling, storage, facilities, surface disturbance, or occupancy. Second and third blanks to be filled in with one or more of the following:

1. ______ feet wildlife habitat essential to specific species.
2. ______ feet peripheral or unique vegetative type.
3. 200 feet either side of centerline of roads or highways.
4. 500 feet of normal high waterline on all streams, rivers, ponds, reservoirs, lakes.
5. 600 feet of all springs.
6. 400 feet of any improvements.

Note: Stipulation no. 12 could be used in place of stipulations nos. 4 and 5.

12. In order to (minimize) (protect)________________________________, ____ will be allowed only during ________________________________. This does not apply to maintenance and operation of producing wells and facilities. Lands within leased area to which this stipulation applies are described as follows:

Reasons:

First blank to be filled in with one or more of the following:

1. Watershed damage.
2. Soil erosion
3. Seasonal wildlife habitat (winter range, calving/lambing area, etc.).
4. Conflict with recreation.

Second blank to be filled in with one or more of the following:

1. Surface disturbing activities.
2. Exploration
3. Drilling
4. Development

Third bland to be filled in with one or more of the following:

1. Period from ________________ to _______________.
2. Dry soil periods.
3. Over the snow.
4. Frozen ground.

Note: Stipulation No. 13 could be used in place of stipulation no. 7 giving greater definition as to restriction.

13. Controlled or Limited Surface Use Stipulation. This stipulation may be modified when specifically approved in writing by the authorized officer of the Bureau of Land Management with concurrence of the federal surface management agency. Distances and/or time periods may be made less restrictive depending on the actual onground conditions.

The lessee/operator is given notice that all or portions of the lease area may contain special values, may be needed for special purposes, or may require special attention to prevent damage to surface and/or other resources. Any surface use or occupancy within such special areas will be strictly controlled or, if necessary, excluded. Use of occupancy will be authorized only when the lessee/operator demonstrates that the use and operations plan which is satisfactory to the Bureau of Land Management and the federal surface management agency for the protection of such special areas, and existing or planned uses. Appropriate modifications to imposed restrictions will be made for the maintenance and operation of producing oil and gas wells. However, in extremely critical situations, occupancy may only be allowed in emergencies.

After the federal surface management agency has been advised of specific proposed surface use or occupancy on these lands, and on request of the lessee/operator, the agency will furnish more specific locations and additional information on such special areas which now include:

(Legal land description to lot and/or quarter, quarter section.)

Reason for Restriction:

Duration of Restriction: (year-round, month(s))

14. Activity Coordination Stipulation. This lease includes lands within *____________________________ which has resource values sensitive to high levels of activity. In order to minimize impacts to these resources, special conditions, such as unitization prior to approval of operations, and/or other limitations to spread surface disturbance activities over time and space may be required prior to approval and commencement of any operations on the lease.

*Wilderness Areas, Further Planning Areas, Areas of Threatened or Endangered Species.

15. Protection of Threatened or Endangered Species. The federal surface management agency is responsable for assuring that the area to be disturbed is examined, prior to undertaking any surface-disturbing activities on lands covered by this lease, to determine effects upon any plant or animal species listed, or proposed for listing as threatened or endangered or their habitats. If the findings of this examination determine that the operation may detrimentally affect on threatened or endangered species, some restrictions to the operator's plans or even disallowances of use may result.

The lessee/operator may, at his discretion and cost, conduct the examination on the lands to be disturbed. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface management agency identifying the anticipated effects of the proposed action on threatened or endangered species or their habitat.

APPENDIX C

APPENDIX C

This appendix contains a summary, by resource, of the provisions set forth in the Forest Plan.

TIMBER

The following tables depict the timber management program which will be implemented through the Plan.

TABLE C-1 LAND CLASSIFICATION

CLASSIFICATION	Acres
1. Nonforest land (includes water)	1,524,098
2. Forest land	1,647,607
3. Forest land withdrawn from timber production 1/	40,495 1/
4. Forest land not capable of producing crops of industrial wood	1,484,845
5. Forest land physically unsuitable: Irreversible damage likely to occur Not restockable within five years	15,788
6. Forest land - inadequate information	0
7. Tentatively suitable Forest land (Item 2 minus items 3, 4, 5, and 6)	106,479
8. Forest land not appropriate for timber production:	
Assigned to other resource uses in Plan (Wilderness)	18,351
Not cost efficient in meeting Plan objectives	17,545
9. Unsuitable Forest land (Items 3, 4, 5, 6, and 8)	1,577,024
10. Total suitable Forest land (Item 2 minus item 9)	70,583
11. Total National Forest System land (Items 1 and 2)	3,171,705

1/ Hoover Wilderness and lands in RARE II designated wilderness areas by California Wilderness Act of 1984 - Mokelumme Wilderness (Raymond Peak Core Area and Tragedy-Elephants Back) and Carson-Iceberg.

TABLE C-2 ACREAGE PHYSICALLY UNSUITABLE FOR TIMBER PRODUCTION BY MANAGEMENT AREA

Management Area	Acres Physically Unsuitable for Timber Production
1	0
2	3,221
3	4,997
4,5	7,086
6	484
7	0
8	0
9	0
10	0
11	0
12	0
TOTAL	15,788

TABLE C-3 TOIYABE TENTATIVELY SUITABLE FOREST LAND DISTRIBUTION

Mgt. Area No.	Tentatively Suitable Forest Land	Assigned to Other Resource Uses in Plan	Not Cost Efficient in Meeting Plan Objectives	Suitable Forest Land
1	14,140		7	14,133
2	22,941		7,419	15,522
3	26,919		4,892	22,027
4	23,568	8,215	813	14,540
5	0			0
6	4,361			4,361
7	0			0
8	0			0
9	0			0
10	0			0
11	4,414		4,414	0
12	10,136	10,136		0
TOTAL	106,479	18,351	17,545	70,583

TABLE C-4 ALLOWABLE SALE QUANTITY (ANNUAL AVERAGE FOR FIRST DECADE)

FORPLAN Model General Prescription Name	Allowable Sale Quantity		
	Sawtimber MCF	Sawtimber MBF	Acres
Shelterwood 1/	464.6	3,018.4	213.8
Retention Visual Zone Cut	228.6	1,481.7	274.5
Salvage/Sanitation	As Needed	As Needed	--
TOTAL	693.2	4,500.1	488.3

1/ Includes shelterwood, clearcut, and intermediate harvest methods

TABLE C-5 TIMBER SALE PROGRAMMED QUANTITY (ANNUAL AVERAGE FOR FIRST DECADE)

SAWTIMBER	693.2 MCF	4,500 MBF

TABLE C-6 VEGETATION MANAGEMENT PRACTICES (ANNUAL AVERAGE IN FIRST DECADE FOR SUITABLE LANDS)

Practice	Acres
Regeneration Harvest:	
Clearcut	As needed
Shelterwood and Seed Tree:	
- Preparatory Cut	213.8 2/
- Seed Cut	--
- Removal Cut	--
Selection:	
- Individual Tree Selection	274.5 2/
- Group Selection	--
Intermediate harvest:	
Commercial Thinning	As needed
Salvage/Sanitation	As needed
Timber Stand Improvement	270.0 2/
Reforestation 1/	519.3 2/

1/ Includes natural and artificial.

2/ These acreages are estimates based on modeling; with implementation, the site-specific silvicultural prescriptions may cause differences.

TABLE C-7 TIMBER PRODUCTIVITY CLASSIFICATION

Potential Growth (cubic feet/acre/year)	Suitable Lands (acres)	Unsuitable Lands (acres)
Less than 20		1,484,845
20-49	70,583	92,179
50-84		
85-119		
120-164		
165-224		
225+		

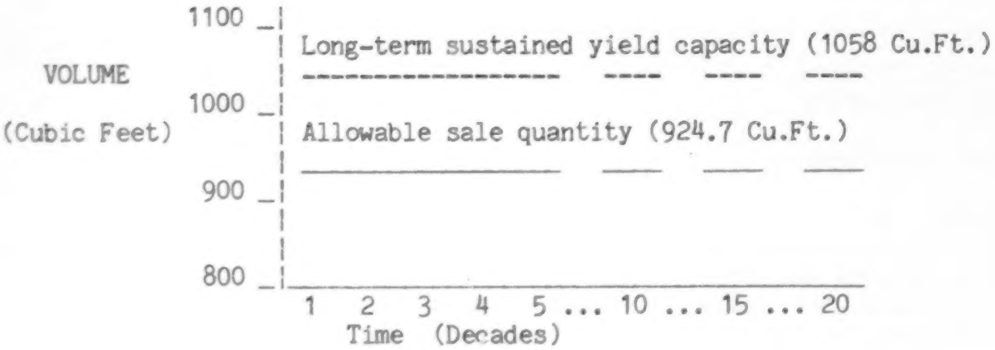
TABLE C-8 ALLOWABLE QUANTITIES OF OTHER PRODUCTS

Fuelwood	587 MCF	6,516 Cords
Pinyon Pine Nuts	77,757 Pounds	
Christmas Trees	1,300 Trees	
Posts and Poles	520 Each	

TABLE C-9 PROGRAMMED QUANTITIES OF OTHER PRODUCTS

Fuelwood	587 MCF	6,516 Cords
Pinyon Pine Nuts	77,757 Pounds	
Christmas Trees	1,300 Trees	
Posts and Poles	520 Each	

FIGURE 1 DISPLAY OF LONG-TERM SUSTAINED YIELD CAPACITY AND ALLOWABLE SALE QUANTITY



Preferred Alternative Allowable Sale Quantity and Long-term Sustained Yield

			Decade								
ASQ in:	1	2	3	4	5	...	10	...	15	...	20
MCF	693.3	693.3	693.4	693.7	693.6		693.7		693.6		693.6
MBF	4500	4500	4500	4500	4500		4547		4525		4522

Long-term sustained yield capacity 1541 MCF per year.

There are no timber management activities planned for unsuitable Forest lands. However, the following activities are permitted:

1. Salvage or sanitation harvesting of trees or stands that are substantially damaged by fire, windthrow, or other catastrophe, or which are in imminent danger from insect or disease attack.

2. Cutting of individual trees or stands to test logging systems, to conduct experiments, or for the purpose of gathering information about tree growth, insect or disease organisms, or determining the effect of such harvesting on other resources.

3. Cutting of trees to promote safety of Forest users, such as hazard-tree removal in campgrounds and picnic grounds, at administrative sites, and along roads open to the public.

4. Harvesting of fuelwood.

5. Harvesting to provide for access, such as road construction.

CULTURAL RESOURCES

There is a moderate to high sensitivity for cultural resources on the Toiyabe. There are many opportunities for enhancing and providing interpretation of this resource for the benefit of the public. This Plan provides for the inventory and effective management of cultural resources on the Forest. Standards, guidelines, and management practices and direction have been established to accomplish this goal.

DISPERSED RECREATION

There is a high demand for dispersed recreation on the Toiyabe. The Forest offers many opportunities to meet future needs, and the over-all opportunity for dispersed recreation will increase. This Plan provides standards and guidelines which will direct realization of dispersed recreation opportunities while minimizing damage to other Forest resources.

DEVELOPED RECREATION

There is a wide spectrum of opportunities that will continue to meet future demands. Sites will be made more durable to handle impacts. The level of law enforcement will improve over the current situation.

Additional developed site capacity will be provided through construction of new campgrounds at Robinson Creek and Faith Valley. Rehabilitation of worn-out facilities will continue at Hope Valley and Robinson Creek.

All together, 12 new developed recreation sites will be constructed and, along with reconstruction of existing developed sites, will result in 5150 PAOTs. Developed recreation opportunities will increase over-all with most effects mitigated through hardening of sites or the addition of other facilities. Full-service levels will be provided at 100 percent of the existing developed sites over the 50 year planning horizon.

NATIONWIDE RIVERS INVENTORY - USDI

A suitability study of three rivers on the Toiyabe which are eligible or may be eligible for future consideration as wild, scenic, or recreation rivers will be completed. The rivers will be managed in accordance with the results of that study.

FACILITIES

The purpose of Forest development roads is to serve projected traffic requirements of increasing public use and intensified management while protecting the Forest's environment through proper design, construction, and maintenance practices.

The individual local road corridors will be located to:

(1) minimize adverse impacts on soil and water resources, including riparian areas.
(2) avoid known significant cultural resources.
(3) preserve threatened, endangered, and sensitive species habitat.
(4) account for traffic volumes, vehicle types, critical vehicle, safety, traffic management, alignment and road surface.

During the first planning period, approximately 13 miles of local roads will be constructed and 26 miles of local road will be reconstructed. Forty-one miles of arterial and collector roads will be constructed, and 269 miles reconstructed.

FIRE MANAGEMENT

The Toiyabe averages 107 fires annually. Approximately 7,000 acres burned during the period 1980 through 1984. Thirty-five percent of the fires were human-caused with incendiary and campfires as primary statistical causes. Quick initial attack will minimize effects of these fires. Without capability for quick and effective initial attack, severe damage could be encountered during periods of high fire danger and in areas of high risk, such as the urban interface. An Escaped Fire Situation Analysis will be made for every escaped fire.

During the May through October fire season, the Forest experiences about 40 days of high fire danger, 30 days of very high fire danger, and 25 days of extreme fire danger. Traditionally, the highest fire occurrence is from late

July through August. Most fires occur during high fire danger when flame lengths are about three to six feet. This makes suppression and mop-up efforts difficult. Fires occurring during very high and extreme fire danger periods are usually hard to handle and account for most resource damage and cost. Flame lengths over 100 feet during these periods are common.

Most large fires are supported by strong gravity winds from the west-southwest resulting in fires burning strongly downslope. This phenomena causes a high risk to urban development adjacent to the Forest on the valley floor.

Table C-10 displays the relationship between fire intensity levels, occurrence of fires, and Forest acreage burned.

TABLE C-10 RELATIONSHIP BETWEEN FIRE INTENSITY LEVELS, FIRE OCCURRENCE, AND ACRES BURNED ON THE TOIYABE NATIONAL FOREST.

Fire Intensity Level	Flame Length (Feet)	Sierras		Central Nevada	
		% of Fires	% of Acreage Burned	% of Fires	% of Acreage Burned
1	1-3	20	10	75	20
2	3-6	60	20	20	40
3	6+	20	70	5	40

TABLE C-10 (cont.)

Fire Intensity Level	Flame Length (Feet)	Las Vegas	
		% of Fires	% of Acreage Burned
1	1-3	30	20
2	3-6	50	35
3	6+	20	45

HUMAN RESOURCE PROGRAM

The Forest Service will continue to support human resource programs to provide employment, skills training, experience, and education for both young and elderly persons in a natural resource environment. These programs foster the

Secretary of Agriculture's commitment and the Agency's mission to serve those who are unemployed or underemployed, minority, and those economically disadvantaged, the youth and elderly through forestry activities.

Youth Conservation Corps (YCC) will provide people between the ages of 15 and 18 years with gainful summer employment while accomplishing needed conservation work on public lands. The Senior Community Service Employment Program (SCSEP) will provide parttime employment for elderly persons whose incomes are within poverty-level guidelines.

Enrollees in these human resource programs will continue to engage in a number of activities on Forest: developed recreation facility maintenance, recreation clean-up, trail maintenance and construction, facility operation and maintenance, reforestation, timber stand improvement, road maintenance, land surveying, road location surveying, and clerical work.

The human reource program will continue as long as, and to the level, appropriated by Congress.

VOLUNTEER PROGRAM

The Volunteer Program will continue to provide a means for the Forest to accept and use services of volunteers (either individuals or groups) for conservation work. Volunteers will engage in a number of activities on the Forest: campground hosts, recreation area cleanup, trail maintenance, and cultural resource inventory.

Management direction in the volunteer program will be for each District Ranger to determine. Each Ranger should assess the need for volunteers on his/her district, and identify jobs which can be accomplished by volunteers.

LANDS

This Plan contains standards and guidelines to facilitate landownership adjustments to accommodate the goals and objectives of this Plan. Land adjustment will be used to consolidate federal ownership: (1) to increase the efficiency of multiple-resource management, (2) to increase ease of access to the Forest; (3) to decrease administrative costs; (4) to minimize energy consumption; and (5) to increase protection and enhancement of the environment. The landownership adjustment standards guide opportunities for adjusting landownership patterns. Land consolidation will permit better management of all resources, both on public and private land. Land consolidation will also reduce impacts from adjacent private ownership.

Standards and guidelines are also provided in this Plan to manage special use permits and possible impacts from development of private inholdings.

LAW ENFORCEMENT

The Forest Service has statutory authority to enforce federal laws and regulations pertaining to the National Forest by virtue of the Act of March 3, 1905, Title 16 USC 559. The states of Nevada and California have jurisdiction for the enforcement of state and local laws on the Forest.

The Toiyabe National Forest has four Level IV law enforcement positions on the Ranger Districts. Technical direction is supplied by a special agent assigned to the Supervisor's Office.

Increasing use of the Forest will result in more violations, especially in the recreational activities, arson fire, wanton vandalism, and firewood, and property theft.

Six cooperative agreements exist between local sheriffs and the Forest. This helps to finance the extra burden placed on county law enforcement organizations.

Emphasis is directed toward deterrence and prevention of violations through personal contacts and implementation of the Host Program principle.

MINERALS AND ENERGY

Through specific standards amd guidelines, this Plan will encourage the development of the energy and nonenergy mineral resource while protecting the surface resource and providing for adequate reclamation. Over the 50-year planning period, an estimated 12,069 operating plans will be issued. Total disturbance will occur on 32,070 acres.

This Plan contains a proposal for 261,500 acres as wilderness which will remove this acreage from energy mineral leasing and new nonenergy mineral entry. Of the 261,500 acres, 40,447 acres have been identified as having high mineral potential. This acreage is subject to valid existing rights.

RANGE

The Forest Service is authorized to develop, administer, and protect range resources, and to permit and regulate grazing-use of all kinds and classes of livestock on National Forest System lands.

The Toiyabe has 122 livestock grazing allotments and 14 wild horse and burro territories. Currently 40 percent of the rangelands is in less-than-satisfactory condition. Of the 14 wild horse territories, some have increasing populations, some diminishing populations, and some are vacant. The Toiyabe is mandated, under the Wild Free-Roaming Horse and Burro Act of 1971, to maintain territories in a thriving ecological condition. This Plan provides standards and guidelines, and management direction to bring 95 percent of all rangelands to satisfactory conditions and to provide improved management of all allotments or territories by 1995.

Soils

Minimum management requirements, and standards and guidelines contained in this Plan ensure the maintenance of soil productivity. Exceptions may occur with some construction activities where roads, mine dumps, or other facilities permanently lower or eliminate site productivity. The Forest's severely damaged sites will be treated to prevent further degradation and, where feasible, site productivity will be restored. Timber harvest, using conventional tractor logging methods, will be confined to slopes of less than 30 percent on erosive granitic sites to maintain soil productivity.

Water

The annual yield of approximately 949,500 acre feet will remain relatively unaffected by Forest management. Annual fluctuations in yield will occur in response to the extreme annual variation in weather that characterizes the climate of the interior west. Maintained or improved water quality will meet state water quality standards including protection of beneficial uses. One exception will be the water quality problems associated with the Leviathan Mine complex. Forest-wide, sediment will continue to be the primary water quality concern although, with few exceptions, sediment is not specifically addressed as a state water quality standard. Minimum management requirements, and standards and guidelines contained in this Plan ensure maintenance of water quality. Specific standards and guidelines have been developed for protection of riparian and watershed values.

VISUAL QUALITY OBJECTIVES

This Plan provides standards and guidelines to manage visual qualities. Over-all impacts will be reduced because of a decrease in timber harvesting, and improved coordination and enforcement of mineral operating plans.

WILDERNESS

This Plan provides for the proposed addition of 261,500 acres of wilderness in Nevada and California to an existing 135,000 acres already designated on the Forest. This would result in an increase from 6,830,500 RVDs to 6,772,200 RVDs. Designation of an additional 261,500 acres of wilderness would effectively decrease timber production. There will also be a decline in mineral exploration through removal of these acres and thus a possible decline in mineral production. Standards and guidelines are provided in this Plan to maintain wilderness characteristics and values while allowing for public use.

WILDLIFE

To maintain viable populations of all native vertebrate and plant species, a number of management practices, and standards and guidelines are required. Standards and guidelines for maintenance of viable populations of wildlife and fish species are provided in Forest-wide standards and guidelines.

THREATENED AND ENDANGERED SPECIES

The minimum management requirements (MMRs) associated with this Plan are set to maintain the Lahontan cutthroat and Paiute cutthroat trout. This Plan also provides for management and protection of other threatened, endangered, and sensitive wildlife and plant species through established standards and guidelines.

DIVERSITY

Standards and guidelines incorporated into all management prescriptions in this Plan provide for a wide diversity in both plant and animal species. Diversity of plants and animals is needed to maintain viable populations of many species. All timber stands in the Forest will have components of species present other than the designated management type.

APPENDIX D

APPENDIX D

Implementation of this Forest Plan will change the composition of timber types on the Forest over time. Table D-1 displays the present and future forest conditions. Table D-2 summarizes the present and future forest type and age composition. Table D-3 displays the forest type and age composition AFTER the first period. Table D-4 displays the forest type and age composition AFTER the fifth period. Table D-5 displays the forest type and age composition FOR the twentieth period. The Forest would be capable of maintaining a long-term sustained yield of 1.54 million cubic feet annually (achieved the twentieth period).

TABLE D-1 PRESENT AND FUTURE FOREST CONDITIONS

	Unit of Measure	Suitable Land	Unsuitable Land
CURRENT FOREST:			
Growing stock	MMCF MMBF	151.0962	N/A
Live cull	MMCF MMBF		
Salvagable dead	MMCF MMBF		
Annual net growth	MMCF MMBF	1.389	N/A
Annual mortality	MMCF MMBF		
FUTURE FOREST:			
Growing stock	MMCF	181.8779	
Annual net growth	MMCF	- 0.579	
Rotation age	Years	120 to 130 1/	

1/ Average rotation age for regenerated stands on lands with timber emphasis.

TABLE D-2 TIMBER AGE-CLASS OF THE TOIYABE NATIONAL FOREST
Current and Future (Based on FORPLAN)

Age Class	Acreage		
	Now	50 Years	200 Years
0 - 10	4,125		
11 - 20		1,774	2,358
21 - 30		2,138	3,210
31 - 40			2,041
41 - 50	4,167	4,125	2,772
51 - 60	16,870		446
61 - 70			8,355
71 - 80			
81 - 90		4,167	1,483
91 - 100		16,870	483
101 - 110			3,721
111 - 120	11,913		783
121 - 130			842
131 - 140			806
141 - 150	14,584		1,034
151 - 160		10,263	
161 - 170	18,924		
171 - 180			1,361
181 - 190		14,406	
191 - 200			
201 - 210		16,839	
211 - 220			2,097
221 - 230			6,624
231 - 240			
241 - 250			
251+			32,166

TABLE D-3 SPECIES AND AGE CLASS COMPOSITION OF THE FOREST AFTER THE FIRST PLANNING PERIOD (DECADE)

FOREST TYPE

Age	Jeffrey Pine	Mixed Conifer	Lodgepole Pine
	Acres		
10			
20	2,580	1,079	467
30			
40			
50			
60		2,648	1,519
70	16,870		
80			
90			
100			
110			
120			
130	11,913		
140			
150			
160			14,584
170			
180		18,924	
190			
200			
210			
220			
230			
240			
250+			

TABLE D-4 SPECIES AND AGE CLASS COMPOSITION OF THE FOREST AFTER THE FIFTH PLANNING PERIOD (DECADE)

	FOREST TYPE		
Age	Jeffrey Pine	Mixed Conifer	Lodgepole Pine
	Acres		
10	336		
20		276	169
30		842	
40		806	
50	1,538	458	178
60	511	1,627	
70	43	2,702	
80	2,580	1,079	467
90			
100			
110			
120		2,648	1,519
130	16,870		
140			
150			
160			
170			
180			
190	9,486		
200			
210			
220			14,237
230			
240		12,212	
250+			

TABLE D-5 SPECIES AND AGE CLASS COMPOSITION OF THE FOREST FOR THE TWENTIETH PLANNING PERIOD (DECADE)

FOREST TYPE

Age	Jeffrey Pine	Mixed Conifer	Lodgepole Pine
	Acres		
10			
20	2,352	6	
30	719	2,492	
40		2,041	
50	43	2,729	
60	353	93	
70	8,251	104	
80			
90		1,483	
100		483	
110	2,371	1,350	
120	336	278	169
130		842	
140		806	
150	399	458	178
160			
170			
180	806	88	467
190			
200			
210			
220		579	1,519
230	6,624		
240			
250+	9,109	8,819	14,237

APPENDIX E

APPENDIX E

DEFORPLAN GOAL PRESCRIPTIONS

The National Forest Management Act (NFMA) regulations define management prescriptions as "management practices selected and scheduled for applications on a specific area to attain multiple-use and other goals and objectives." Generally, a management prescription is a set of treatments or practices to develop and/or protect some combination of resources on a particular land type.

The Interdisciplinary (ID) Team analyzed the management situation of the Toiyabe National Forest. As part of that analysis, they determined the minimum activities necessary to: conserve soil and water resources; prevent significant or permanent impairment of productivity of the land; maintain viable populations of existing native vertebrates; and prevent the destruction or adverse modification of critical habitat for threatened and endangered species. These activities set minimum management requirements and were imbedded in management practices and/or standards and guidelines for the prescriptions.

The ID Team compiled a list of management practices currently being used to resolve issues or concerns, and those needed to take advantage of resource development opportunities identified in the "Analysis of the Management Situation" (AMS). The ID Team, based on existing research, historical records, and professional expertise, examined practices to determine if they would provide resource protection, minimize serious or long-term hazards, protect streams, maintain diversity, etc. Where applicable, practices previously agreed to jointly by state and Forest Service personnel were selected. Research used in formulating practices for prescriptions is noted in the process records. [A summary listing is included in references.]

DEVELOPMENT OF MANAGEMENT PRESCRIPTIONS

To ensure an adequate range of management prescriptions for benchmark and alternative formulation, the ID Team, with assistance from resource specialists, developed a set of prescriptions with a variety of management emphases, intensities, practices, and standards and guidelines for each land type. These range from minimum level prescriptions with little active management to prescriptions containing high intensity management for timber, wildlife, recreation, and wilderness. The Current Management Benchmark/Alternative was defined through the management prescriptions representing all activities currently being practiced. Issues were analyzed and prescriptions were developed for their positive solution. Special prescriptions were developed for areas such as wilderness.

The primary silvicultural practice chosen for Toiyabe timber stands is shelterwood cutting. This practice was chosen because:

1. It provides for cost-efficient reforestation by natural regeneration supplemented with planting.

2. It provides the best conditions for establishment and survival of regeneration on harsh sites.

3. It provides the best situation for maintaining site productivity and for preventing soil loss (erosion).

4. It provides some control of regeneration of desired tree species.

5. It provides the best situation for maintaining aesthetic values on the Forest.

The specific volume amounts removed in the series of cuttings depends on the involved species regeneration requirements.

In areas where retention of aesthetic values is desired, individual tree selection cutting is used. This practice was chosen because:

1. It will meet the retention visual quality objective.

2. It provides for yields of timber from these areas.

3. It provides for establishment and survival of regeneration.

4. It also maintains site productivity and prevents soil loss.

The choice and use of any other management practice, however, is not ruled out by the preceding choices. The written silvicultural prescription for any particular stand will be the practice within multiple-use goals established for the area through this Plan. The majority of prescriptions will be shelterwood cutting: in retention zones it will be individual tree selection cutting (see Appendix D).

The following Table (TABLE E-1) shows the acres by management area prescription for each alternative. A list follows the table which describes the management area prescription, and gives the DEFORPLAN goal from which these prescriptions were derived.

TABLE E-1 ACRES BY MANAGEMENT AREA PRESCRIPTION
In Thousand Acres

Prescription	Management 1	Management 2	Management 3	Management 4	Management 5	Management 6	Management 7	Management 8	Management 9	Management 10	Management 11	Management 12
1. Wilderness-Designated and Recommended		16.0	4.9	72.7	135.1			94.4	31.0			42.5
3. Intensive Wildlife and Dispersed Recreation		74.2	32.4	46.1		405.2	173.4	441.5	377.1	496.9	6.3	
4. Stewardship Wildlife, Range, and Recreation							94.4		27.3			
5. Market Opportunities						14.0		5.1		54.0		
6. Wild Horses, Wildlife, and Dispersed Recreation						186.0				177.6		
8. Intensive Dispersed Recreation Wildlife, and Current Developed Recreation											9.1	
10. Moderate Timber and Range	25.0											
11. Market Opportunities and Developed Recreation			77.3	84.9							.1	

Management Area Prescription

1. Wilderness - Designated and Recommended - This prescription (Rx) is designed to manage the established and recommended wilderness area to meet objectives and intent of the Wilderness Act (GOAL 6 in DEFORPLAN).

3. Intensive Wildlife and Dispersed Recreation - This Rx emphasizes the amenity values of wildlife and dispersed recreation (GOAL 4 in DEFORPLAN).

4. Stewardship Wildlife, Range, and Recreation - This Rx is a maintenance level program close to current level management (GOAL 3 in DEFORPLAN).

5. Market Opportunities - Rx emphasizes Timber/Range programs (GOAL 5 in DEFORPLAN).

6. Wild Horse, Wildlife and Dispersed Recreation - Rx is similiar to Rx 3 except emphasizes Wild Horse Management in the areas of significant wildhorse populations (GOAL 4 in DEFORPLAN).

8. Intensive Dispersed Recreation, Wildlife, and Current Developed Recreation - This Rx is similar to Rx3 except it applies to heavily developed recreation areas on the Forest. Emphasis is dispersed recreation and wildlife while maintaining developed recreation at current levels.

10. Moderate Timber and Range - Rx emphasizes timber/range at moderate levels of management intensity (GOAL 5 in DEFORPLAN).

11. Market Opportunities and Developed Recreation - This Rx emphasizes developed recreation, range, and timber with primary emphasis on recreation (GOAL 5 in DEFORPLAN).

SUMMARY OF DEFORPLAN PRESCRIPTION DESCRIPTION, AND STANDARDS AND GUIDELINES

Six prescriptions were developed for running the DEFORPLAN model. For purposes of discussion these prescriptions have been termed Goal 1 through Goal 6. Each Goal is a prescription of differing emphasis which provides a mix of resource management practices and outputs. This differing emphasis and the resulting mix are essential to enabling the DEFORPLAN model to select the most cost-effective way of managing various areas or resources and the Forest as a whole.

Forest-wide standards and guidelines were developed for each resource within all goals. These "functional" standards and guidelines are provided to establish the management practices to be applied through each goal. Emphasis and intensity of these standards and guidelines are directly correlated with management emphasis by goal. For example, the range or timber resource will not be managed at the same level on all areas of the Forest. Where there is an emphasis on recreation, standards and guidelines were developed for range, timber, and recreation, to maintain and enhance recreational opportunities. These are different from standards and guidelines for areas where range or timber management is emphasized. (For a more detailed presentation, the reader should refer to the document "Forest Plan Guidelines and Standards, October 1983" on file at the Forest Supervisor's Office in Sparks, Nevada.)

No one goal and particular set of standards and guidelines were selected for the entire Forest. Instead, combinations of goals, selected through DEFORPLAN, will be implemented on management areas throughout the Forest.

GOAL 1 - Minimum Level Management Prescription

Purpose: A management thrust that emphasizes the Administration's base-level program (a budget 25 percent less than fiscal year 1982).

DEFORPLAN Level 7 (Management Emphasis) Identifiers for Goal 1:

--Goal 1 - Applied to all analysis areas in central Nevada and Mount Charleston portions of the Forest.

--Timber 1 - A Goal 1 prescription applied to all commercial timber analysis areas on the Carson District (Sierra).

--Timber Haul 1 - A Goal 1 prescription applied to all commercial timber analysis areas on the Bridgeport District (Sierra).

--Range 1 - A Goal 1 prescription applied to all noncommercial timber analysis areas in central Nevada and range allotment analysis areas in the Sierra.

Major Forest-wide "Functional" Standards and Guidelines by Resource:

Recreation. There will be minimum recreation planning only to protect public safety and high-value resources. Only high-risk EAs will be reviewed. Visual quality will be retained. Cursory trail inventory records will be maintained. Patrols will be performed on priority developed sites when possible. Priorities will dictate the closure or removal of noncost-effective sites. Fees will be collected at cost-effective fee sites. Sites will be closed when resources show heavy damage. Public hazards will be corrected in operating sites, but beyond this, they will generally be maintained to RIM Condition Class 1. Trail maintenance efforts will be directed to protect public safety first. Law enforcement efforts will be directed where environmental engineering and education have been unsuccessful, and where damages/losses are most significant.

Cultural Resources. Cultural resource inventory and evaluation is will be project-related only, with maximum use of paraprofessionals. Avoidance will be emphasized to protect cultural resources, with data recovery and other mitigation measures used as necessary.

Wildlife. The necessary surveys, planning, prescriptions, monitoring, cooperation, and administration will be provided to maintain viable wildlife populations. Wildlife studies will be established and conducted within general guidelines. Studies will be limited to MIS. Habitat management plans will be written for all areas with a wildlife management emphasis. All planning, surveys, and inventories will be coordinated with other resource elements. Project-related work will be significantly decreased. Efforts will be made to remove wildlife species from the Threatened and Endangered list. The consultation process will be conducted. Interagency cooperation with the Nevada Department of Wildlife and California Fish and Game Department will be continued as outlined in the Memorandum of Understanding. Structural and nonstructural habitat improvements will be used to maintain or enhance viable populations of wildlife on the Forest, and will be restricted to MIS.

Range. Allotment management plans (AMPs) currently in effect for moderate and low priority allotments will be maintained commensurate with available resources. No new AMPs will be implemented nor will AMPs requiring a major revision be updated. The Annual Operating Plan (AOP) will serve as management instructions for allotments falling in these latter two categories.

Range analysis, new or updated, will be completed only when the information is critical to making management decisions concerning resource damage by livestock or big game.

Range improvements, both structural and nonstructural, will be designed only for arresting range deterioration. Grazing permittees are responsible for maintenance of structural range improvements assigned to them in the grazing permit. The Forest Service is responsible for maintenance of range improvements necessary to administer allotments; e.g., administrative site pastures and corrals.

Cooperation with other federal agencies, state agencies, interest groups, and the general public will continue commensurate with the allotment situation. Emphasis will be on building and maintaining a good working relationship with permittees. Implementing interagency agreements with the BLM to simplify management and administration of rangelands that form a natural unit but which are managed and administered by both agencies will also be emphasized.

Priority in control of noxious farm weeds will be given to projects that involve cooperation with state and county agents, weed control districts, private interests, and multiple Forest Service functions; e.g., range, wildlife, roads and trails, recreation, timber, watershed.

Technical assistance and training concerning the Forest Sensitive Plant Program will be conducted. Assistance priority is given to projects that would impact plant populations having an endangered or threatened status or which would impact critical habitat.

Wild Free-Roaming Horses and Burros. Management will be in accordance with the Wild Free-Roaming Horse and Burro Act of 1971 and subsequent regulations. Territory management plans will be maintained to the extent that the population level is in balance with the habitat. Vacant territories and territorial boundaries will remain status quo. Interagency agreements between the BLM and the Forest Service will be followed to the extent that resources allow. Emphasis on maintaining a good working relationship with wild free-roaming horse or burro interest groups will continue as will cooperation and coordination with state and county agencies.

Timber. The Timber Management Information Systems (TMIS) will be maintained annually. Other control records will be maintained only as absolutely necessary.

Las Vegas timber stands will be managed to maintain desired stands for a forested appearance. Shelterwood, selection, sanitation, or a special silvicultural standard will be utilized as needed to perpetuate timber appearances. Thinning cuts may also be applied to these stands.

Pinyon/juniper will be managed to perpetuate these stands for range and wildlife forage and habitat, pine nuts, fuelwood, and other products.

Limited timber harvest management activities such as fuelwood removal, timber stand improvement, planting, or stand examination will be permitted within unregulated forested lands.

Pesticide chemicals for timber management purposes will be used in accordance with established policy and procedure. Chemicals will not normally be used within riparian areas for timber management purposes.

Silvicultural examinations will be conducted to provide data for timber projects. Standards for examination procedures are contained in the current Regional publication, "Stand Examination Procedures." A detailed written silvicultural prescription is required before timber vegetative manipulation or cultural treatment takes place. Exceptions include removal of trees that block vision along roads, removal of hazard trees, right-of-way clearing, mining operations, and minor and incidental amounts of fuelwood. Stand examinations will only be done to identify stands with insect or disease problems that need treatment to prevent spread.

Tree crops or tree cover on lands classed as forested will be established. Standards for planting and seeding are in FSH 2409.266 - Reforestation Handbook. Cone collection is part of the reforestation process and standards are in FSH 2409.26f - Seed Handbook. All backlog planting areas will be examined for existing tree stocking, economics of planting, and site growth capacity prior to deciding to plant the area. Natural regeneration will be relied on more than planting. Reforestation areas will be fenced if needed to prevent damage from sheep and cattle grazing. On all reforestation areas the need for control of animals will be evaluated to protect planted, seeded, or naturally regenerated stands from damage; this will be coordinated with wildlife management. Reforestation to desired stocking levels will be done within five years of final harvest cut. Stocking levels are shown in FSH 2409.26b - Reforestation Handbook. Reforestation needed per existing KV plans will be completed.

Intermediate cuttings and other treatments to improve the composition, condition, and growth increment of timber stands will be made. Excess small material in the stand will be utilized for products when possible. The best residual basal area will be utilized to maximize stand growth. Timber stand improvements needed per existing KV plans will be completed. Timber will be managed at a low level. There will be no sawlog sales, but resource production capability will be maintained. Timber sale preparation administration will be applied in and around developed recreation sites and in insect and disease control work. Integrated pest management will be incorporated in all sale planning, preparation, and administration activities.

Tractor logging generally will be permited on slopes of 35 percent or less, and on 30 percent or less for granitic soils. Site-specific environmental assessments to modify for tractor logging on steeper slopes to fit ground conditions will be used. Single tree selection and salvage standards for a minimum of 100 feet from the edges of all perennial streams, lakes, and other bodies of water will be used. For wildlife purposes a minimum number of snags will generally be left: 1) on timber land leave .72 snags/acres; 2) on aspen/riparian areas leave 1.72 snags/acres; and 3) around openings leave four snags/acres. Along major highways (state and federal), the selection standard will be applied.

Around developed recreation sites, sanitation (salvage) timber removal will be allowed only within 200 feet. Individual tree selection standard will be allowed only within the next 100 feet. The above standards apply unless a major change in vegetation occurs (such as a stand becomes old growth and has a high hazard potential), and work must occur within the developed site to change the vegetation; or a vegetative management plan is specifically developed for the site, in which case the treatments so developed would be applied.

No new commercial sawlog sales will be made. Administration of existing timber sale contracts will continue until all contracts are closed. A low level of timber products (mostly fuelwood) will be provided from the pinion/juniper component and from insect and disease control work in Jeffrey pine, mixed conifer, and lodgepole pine components. Sale administration will follow regional standards in log and load accountability, financial management (TSA), scaling, and check scaling.

Fuelwood may be sold or made available for free-use as an integrated part of timber management. Sale procedures, administration, and collections will follow uniform procedures. Workroads needed but not available under the existing system to access fuelwood areas may be constructed, maintained, and closed as funds permit and if environmentally sound.

Districts will evaluate the pine nut crop annually and determine if and where suitable areas exist for harvesting. These are to be readily accessible by vehicle. They will be delineated on a district administrative map. The map will become the basis for the sale program for the year. Contributed funds (collections) will be utilized for road construction and/or maintenance to encourage use of forest products which otherwise would not be merchantable. Commercial pine nut sales will be advertised and sold on a bid basis unless demands can be met and "over-the-counter" sales can be justified.

Personal-use sales of Christmas trees for management purposes of pinyon/juniper will be utilized. In areas where Christmas tree sales are made, care will be taken to assure that the stand is not high-graded or that stocking is reduced to an unsatisfactory level.

Post and pole sales will be utilized for management of overstocked pinyon/juniper stands. Post and pole sales can also be made in overstocked stands of other species.

Pinyon/juniper areas will be thinned or cut for multi-resource benefits including wildlife habitat improvement, increased range forage production, and to meet the demand for fuelwood. Commercial sales will be made in various sizes to encourage small and large businesses. Contributed funds (collections) can be utilized for road construction/maintenance costs to provide access and protection of areas which would otherwise be unmanaged. A fuelwood policy for the Forest will be developed. The fuelwood policy will be reviewed and updated annually as needed.

A forest pest management program will be planned, directed, and coordinated on the Forest. Survey and suppression activities will be utilized to manage forest pests. Insect and disease problem areas will be monitored and control measures taken to attempt to prevent spread of the problems off the Forest. Insect and disease problem areas that are not likely to spread off the Forest will be monitored. Treatment measures will be attempted: 1) if trees of commercial species included in the timber base are killed and if there is potential for rapid spread of the insect or disease; .and 2) if the insect or disease problem is judged to be in an epidemic stage (includes all species).

Activity-caused fuels (slash) will be removed or treated to reduce fuel hazards and to improve visual resources. Slash will be utilized for fuelwood where possible. Slash treatment activities will be coordinated with fire management, air quality, and wildlife habitat. Activity-caused slash in roadside zones will be treated. Within the rest of the activity area, only heavy concentrations of slash will be treated.

Detection, prevention, and investigation of violations of federal timber resource laws and regulations will occur. The law enforcement plan will reflect timber-related law enforcement problems. This plan will emphasize prevention measures. Timber needs .68 person-years under this goal.

Cultural resource surveys will be completed prior to any ground disturbing project.

Soil and Water. The necessary data base and planning will be provided for the best management of soil and water resources. Soil and water inventories will be fully coordinated with inventories of other resource units. Inventories will be reactionary to outservice initiated activities or for the protection of public health and safety. Areas will be rehabilitated where resource damage has occurred. Improvement projects will be considered when necessary to protect public health and safety. FERC hydroelectric projects will be handled on a case-by-case basis. Adequate water will be provided to maintain and provide for all national resource values and uses. The water rights program will remain constant throughout all of the prescriptions. Watershed improvement structures will be maintained to the point necessary to perpetuate their usefulness. Only those improvements needed to protect investments will be maintained. Monitoring levels will be reduced commensurate with the reduction in management practices.

Minerals. Geologic reports will be written in accordance with established procedures. All withdrawals and land exchanges will contain mineral evaluations. Virtually no general technical inventory and evaluation would be conducted. Mineral withdrawals will be virtually nonexistent, except for RNAs. Land acquisitions and exchanges will be at a minimum with a concomitant minimal need for mineral reports. There will be no inventory of either special geologic areas or common variety mineral materials. Validity examinations will be used to prevent unauthorized mining activities. Validity examinations will be conducted on all operations proposed within RNAs not withdrawn and wilderness areas (designated or proposed). Each Notice of Intent (NOI) or Operating Plan (OP) submitted will be processed in the same manner throughout all prescriptions. A detailed assessment of 70 percent of NOIs and OPs submitted on the Forest will be conducted. Each lease application submitted to the Forest will be processed in the same manner throughout all prescriptions. All proposed development plans submitted to the Forest will be acted on. Compliance checks will be conducted in accordance with established procedures. Contests and appeals will be handled on a case-by-case basis to ensure compliance with 36 CFR 228 regulations through adminstrative and judicial channels.

Fire Management. Fire Prevention is at Level 1. There will be minimum passive media management and coordination of seasonal restrictions, with token use of Cooperative Forest Fire Prevention (CFFP) materials. The public and other cooperators will be utilized in fire detection. Force account detection following electrical storms will be used in high-risk situations only. For primary initial attack capability approximating fiscal year 1981, 5100-9s will be maintained. Initial attack forces will productively support other elements and activities when presuppression objectives have been met and when not on fires. Use of cooperators and regional resources for secondary attack will be optimized. Minimal support will be used to maintain the organization. There will be no major capital investments. Initial attack suppression action and escaped fire suppression will be in accordance with current policy. Fuel management inventory, treatment of natural fuels, and fuel-break construction will not be performed for this prescription. Interagency opportunities to support inital attack capability will be optimized. Passive, fire-cause investigations will be performed.

Facilities. The transportation system will be planned, developed, and operated to provide user safety, convenience, and efficiency; and to accomplish land and resource management objectives. A transportation system review will be performed on the entire system to establish a basis for a road management policy which can be coordinated with land and resource management objectives by the management team. All engineering, construction, and reconstruction activities for arterial and collector roads are not applicable for this goal. For traffic management, analysis, control, and use of the Transportation System will be for the accomplishment of land and resource management goals. On-the-ground maintenance will be performed on an emergency basis, accomplishing only high priorities Forest-wide. All preconstruction engineering, construction engineering, and construction/reconstruction activities for all trails are not applicable to this goal. Facilities, administration, and operations (FA&O) construction and reconstruction are also not applicable to this goal. Structures will be maintained to no less than minimum standards for health and safety for the users. Potable water systems will be maintained and monitored for compliance with National Forest Service direction to protect the health of the public and Forest Service personnel. Wastewater collection systems and treatment works will be monitored and maintained to avoid creating health hazards, to restore the quality of water resources, and to prevent future pollution. Technical inspection will be performed annually on all high and selected moderate and low hazard dams to monitor conditions and ensure that maintenance is accomplished to minimize hazards to downstream life and property.

GOAL 2 - A Current Level Prescription

Purpose: A prescription that uses the 1981 budget, activities, and outputs. This projects into the future the outputs that would occur if current activities were continued.

DEFORPLAN Level 7 (Management Emphasis) Identifiers for Goal 2:

--Goal 2 - Applied to all analysis areas in central Nevada and Mount Charleston portions of the Forest.

--Timber 2 - A Goal 2 prescription applied to all commercial timber analysis areas on the Carson District (Sierra).

--Timber Haul 2 - A Goal 2 prescription applied to all commercial timber analysis areas on the Bridgeport District (Sierra).

--Range 2 - A Goal 2 prescription applied to all noncommercial timber analysis areas in central Nevada and range allotment analysis areas in the Sierra.

Major Forest-wide "Functional" Standards and Guidelines by Resource:

Recreation. Same as Goal 1 with the following exceptions:
Recreation planning is at a slightly higher level, in response to issues and NEPA requirements and to ensure that recreation is fully analyzed as a key opportunity on the Toiyabe. This goal emphasizes VQOs and visual planning in all EAs. The existing trail plans will be maintained. RIM will be maintained to Forest Service Handbook (FSH) standards. The existing trail system inventory will be maintained. Developed sites will be patrolled daily during use season on the Carson (D-1), Bridgeport (D-2), and Las Vegas (D-5) districts; and every other day in central Nevada. This goal calls for striving to provide the current RIM managed season capacity while maintaining RIM Condition Class 2. Minimum legal requirements for ORV administration will be met. Trail reconstruction should be one mile per year based on management team priority. See Forest-wide standards and guidelines in the Plan for the trail maintenance schedule.

Cultural Resources. Same as Goal 1 with the following exceptions:
There will be participation with the SHPO in development of state-wide and Forest-wide archaeological plans such as the "Archaeological Element for the Nevada Historic Preservation Plan." For cultural resource inventory, areas are selected based on issues, values, risks, and input from the SHPO. A Forest-wide cultural resource overview, based on archival review will be developed. Cultural resources will be enhanced only after meeting project mitigation and protection needs. Cultural resource special use responses will be handled at 75 percent of maximum efficiency.

Wildlife. Same as Goal 1 with the following exceptions:
The process to establish, conduct, and analyze studies will not change through the management prescriptions. However, the number of studies implemented, or

the purposes for establishment will change. In addition, range studies will be conducted on a site-specific basis, particularily on those areas with a wildlife management emphasis. Plans and inventories will be developed on a case-by-case basis. The number of plans and/or inventories will increase over Goal 1. Project related work will increase. The level of monitoring will increase over Goal 1. Where not conflicting with other important resource values, threatened and endangered species will be relocated to unoccupied habitat. Consultation and cooperation will increase over Goal 1. Nonstructural improvements will be used for other wildlife in addition to MIS. Structural habitat improvements will be used for MIS, and other selected wildlife species.

Range. Same as Goal 1 with the following exceptions:
This prescription represents an approximate 25 percent increase in resource management over Goal 1, allowing a proportionate increase in implementation of the Forest Range Action Plan. Allotment management plans for high priority allotments will be maintained so that implementation of the plan is scheduled and objectives are met. AMPs for moderate priority allotments will be maintained to ensure that objectives to correct range deterioration are met. Low priority allotments will be maintained commensurate with available funding and resources.

Range Analysis is performed under Goal 1 criteria, but updating, other than new or major updates, is a normal task that is done as a part of maintaining AMPs for high priority allotments.

Wild Free-Roaming Horses and Burros. Same as Goal 1 with the following exception:
Emphasis is placed on removal of wild horses and burros that are increasing on National Forest System lands outside of their territories.

Timber. Same as Goal 1 with the following exceptions:
Timber management control records including TMIS will be maintained annually. Silvicultural examination and stand treatment needing identification will be accomplished every 20 years on all available timber land. Stand examination information for site-specific data (such as volume/acre, growth rates, etc.) will be used for timber planning.

Silvicultural examinations in pinyon/juniper stands do not have to follow regional publication "Stand Examination Procedures." The examination procedure should utilize an existing procedure or be designed to produce the following information: 1) acres from which fuelwood, pinyon nuts, Christmas trees, and posts and poles can be produced; 2) volume or amounts of all these products that can be produced; and 3) current accessibility or need and possibility for building roads.

Natural regeneration stocking will meet stocking levels prior to scheduling final removal cut of shelterwood standard. Schedule planting could be considered if natural regeneration success is poor. Research should be promoted to determine the best thinning schedule and stocking level to provide the best volume growth per acre. Stands will be scheduled by priority of need for treatment of insects and disease. Moderate acreage per year will be thinned.

Timber will be managed for moderate levels of outputs of sawlogs and products. There will be a mixture of management intensities. The following are the silvicultural standards by species:

Jeffrey and Lodgepole Pine

Silvicultural Standard: Two step shelterwood - Rotation age 130 years
1st Step - Seed Cut - Remove 80 percent of existing volume
2nd Step - Removal Cut - Remove remaining overstory volume
Thinning Cycle - 20 years

Mixed Conifer

Silvicultural Standard: Three-step shelterwood - Rotation age 130 years
1st Step - Preparation Cut - Remove 60 percent of existing volume
2nd Step - Seed Cut - Remove 1/2 of remaining volume
3rd Step - Removal Cut - Remove remaining overstory volume
Thinning Cycle - 20 years.

Jeffrey, Lodgepole Pine, and Mixed Conifer

Silvicultural Standard: Three-step shelterwood - extended rotation of 200 years
1st Step - Preparation Cut - Remove 60 percent of existing volume
2nd Step - Seed Cut - Remove 1/2 of remaining volume
3rd Step - Removal Cut - Remove remaining overstory volume
Thinning Cycle - 40 years

Jeffrey, Lodgepole Pine, and Mixed Conifer

Silvicultural Standard: Clearcut - Rotation age 130 years
1st Step - Clearcut - Remove all existing volume
Maximum Clearcut Size - 20 acres
Assure that the area is reforested either by natural or artificial regeneration.
Thinning Cycle - 20 years

Jeffrey, Lodgepole Pine, and Mixed Conifer

Silvicultural Standard: Selection - Uneven-aged Stand Structure
Generally all trees greater than 24 inches DBH are cut. Control of stand is to maintain the desired age class distribution. Maintain approximately 150 basal area per acre.
Cutting Cycle - 20 years

Jeffrey, Lodgepole Pine, and Mixed Conifer

Silvicultural Standard: Sanitation Cut (salvage)
Removal of dead, dying, deteriorating, or susceptible trees.
Cutting Cycle - Whenever needed

Jeffrey, Lodgepole Pine, and Mixed Conifer

Silvicultural Standard: Special Cut
Removal of trees for other than silvicultural purposes.
Utilize for sawtimber those trees with a diameter at DBH of 12 inches or greater.
As a minimum follow Region's five-year timber sale planning process to ensure timely completion of steps to completed timber sale.

For wildlife purposes, a minimum number of snags generally will be left as follows: 1) on timber land leave 1.08 snags/acre; 2) in aspen/riparian areas leave 3.08 snags/acre; and 3) around openings leave four snags/acre.

Timber products will be provided from all components. The timber management goal is a moderate MCF output on a sustained yield basis. Timber management will be strongly influenced by economics with intensive and nonintensive management occurring. Stands chosen for management will be those with the best PNV. Determination of sustained yield MCF output and management will be based on an examination of the economics involved in applying various management schemes to the species strata. Of the various species managed on the Toiyabe, Jeffrey pine and western white pine are the most valuable. Species price differential, logging costs, different thinning schemes, different regeneration methods, and rotation lengths comprise major areas affecting economics and amount of output.

Proposed thinning schemes during a rotation are:

No thinning
One thinning - precommercial
One thinning - commercial
One thinning - precommercial with two thinnings commercial
One thinning - precommercial with three thinning commercial

The timing options of thinning cuts must also be examined. Experience on the Toiyabe indicates that shelterwood harvest and natural regeneration are the most workable for timber management. A moderate level of other timber products (mostly fuelwood) would also be provided.

Any shelterwood silvicultural standard can be applied within maximum modification, modification, and partial retention visual resource zones. Clearcut silvicultural standards can be applied in maximum modification visual resource zones. In modification visual resource zones, patch cuts can be applied but no larger than five acres. In partial retention visual resource zones patch cuts can be applied but no larger than one to two acres. Within retention visual resource zones, only salvage and selection silvicultural standards can be applied.

For species included in the timber base, current insect and disease problem areas will be treated to attempt to control problems. Thinning of stands will be the primary way for prevention of bark beetles and for treating dwarf mistletoe. Small clearcuts can also be used for treating dwarf mistletoe, provided the cut will fit within the scheduled harvest. Fuel treatment standards will be developed and implemented for the Forest.

Timber emphasis by intensity will be as follows:

TIMBR2 FH--FH and TIMBH2 FH--FH - In the existing stand, under the even-aged management system, this prescription involves management of the existing stand by application of only a final harvest cut with no commercial thinning during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For existing stands, implementation may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

Following rotation, under the even-aged managment system, this prescription involves management of the subsequent stand by application of only a final harvest cut with no commercial thinning during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For the subsequent stands, implementation may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In retention zones, implemenation of selection silvicultural standards occurs.

TIMBR2 FH-2CT and TIMBH2 FH-2CT - In the existing stand, under the even-aged management system, this prescription involves management of the existing stand by application of only a final harvest cut with no commercial thinning during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For existing stands implementation may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

Following rotation, under the even-aged management system, this prescription involves management of the subsequent stand by application of a final harvest cut with two commercial thins during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For the two intermediate thins, implementation of the first may occur at ages 80 or 90 with the second thin on a 20-year cycle in the rotation prior to final harvest. Implementation of final harvest may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In the retention zones, implementation of selection silvicultural standards occurs.

TIMBR2 FH-3CT and TIMBH2 FH-3CT - In the existing stand, under the even-aged management system, this prescription involves management of the existing stand by application of only a final harvest cut with no commercial thinning during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For existing stands implementation may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

Following rotation, under the even-aged management system, this prescription involves management of the subsequent stand by application of a final harvest cut with three commercial thinnings during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For the three intermediate thins, implementation of the first may occur at ages 60 or 70 with the other thins on a 20-year cycle in the rotation prior to final harvest. Implementation of final harvest may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

TIMBR2 2CT-FH and TIMBH2 2CT-FH - For the existing stand, under the even-aged management system, this prescription involves management of existing stands by application of a final harvest cut with two commercial thinnings during rotation. This final harvest cut may be a shelterwood cut or a clearcut. For the two intermediate thins, implementation of the first may occur at ages 80 or 90 with the second thin on a 20-year cycle in the rotation. Implementation of final harvest may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

In the existing stand, under the even-aged management system, this prescription involves management of the existing stand by application of only a final harvest cut with no commercial thinning during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For existing stands, implementation may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

TIMBR2 2CT2CT and TIMBH2 2CT2CT - For the existing stand, under the even-aged management system, this prescription involves management of the existing stand by application of final harvest cut with two commercial thinnings during rotation. This final harvest cut may be a shelterwood cut or a clearcut. For the two intermediate thins, implementation of the first may occur at ages 80 or 90 with the second thin on a 20-year cycle in the rotation. Implementation of final harvest may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

Following rotation, under the even-aged management system, this prescription involves management of the subsequent stand by application of a final harvest cut with two commercial thinnings during rotation. This final harvest cut may be a shelterwood cut or a clearcut. For the two intermediate thins, implementation of the first may occur at ages 80 or 90 with the second thin on a 20-year cycle in the rotation. Implementation of final harvest may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

TIMBR2 2CT3CT and TIMBH2 2CT3CT - For the existing stand, under the even-aged management system, this prescription involves management of the existing stand by application of final harvest cut with two commercial thinnings during the rotation. This final harvest cut may be a shelterwood cut or a clearcut. For the two intermediate thins, implementation of the first may occur at ages 80 or 90 with the second thin on a 20-year cycle in the rotation. Implementation of final harvest may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

Following rotation, under the even-aged management system, this prescription involves management of the subsequent stand by application of a final harvest cut with three commercial thinnings during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For the three intermediate thins, implementation of the first may occur at ages 60 or 70 with the other thins on a 20-year cycle in the rotation prior to final harvest. Implementation of final harvest may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

TIMBR2 3CT-FH and TIMBH2 3CT-FH - For the existing stand, under the even-aged management system, this prescription involves management of the subsequent stand by application of a final harvest cut with three commercial thinnings during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For the three intermediate thins, implementation of the first may occur at ages 60 or 70 with the other thins on a 20-year cycle in the rotation prior to final harvest. Implementation of final harvest may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

In the existing stand, under the even-aged management system, this prescription involves management of the existing stand by application of only a final harvest cut with no commercial thinning during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For existing stands, implementation may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

TIMBR2 3CT2CT and TIMBH2 3CT2CT - For the existing stand, under the even-aged management system, this prescription involves management of the subsequent stand by application of a final harvest cut with three commercial thinnings during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For the three intermediate thins, implementation of the first may occur at ages 60 or 70 with the other thins on a 20-year cycle in the rotation prior to final harvest. Implementation of final harvest may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

Following rotation, under the even-aged management system, this prescription involves management of the existing stand by application of a final harvest cut with two commercial thinnings during rotation. This final harvest cut may be a shelterwood cut or a clearcut. For the two intermediate thins, implementation of the first may occur at ages 80 or 90 with the second thin on a 20-year cycle in the rotation. Implementation of final harvest may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

TIMBR2 3CT3CT and TIMBRH2 3CT3CT - For the existing stand, under the even-aged management system, this prescription involves management of the subsequent stand by application of a final harvest cut with three commercial thinnings during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For the three intermediate thins, implementation of the first may occur at ages 60 or 70 with the other thins on a 20-year cycle in the rotation prior to final harvest. Implementation of final harvest may occur from age: 120 to 320 for Jeffrey pine; 120 to 370 for mixed conifer; and 120 to 350 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

Following Rotation, under the even-aged management system, this prescription involves management of the subsequent stand by application of a final harvest cut with three commercial thinnings during rotation. The final harvest cut may be a shelterwood cut or a clearcut. For the three intermediate thins, implementation of the first may occur at ages 60 or 70 with the other thins on a 20-year cycle in the rotation prior to final harvest. Implementation of final harvest may occur from age: 120 to 130 for Jeffrey pine; 120 to 130 for mixed conifer; and 120 to 130 for lodgepole pine. In retention zones, implementation of selection silvicultural standards occurs.

TIMBR2 NONCUT and TIMBH2 NONCUT - Goal 2 was selected, but due to economics, the stand will not be managed for sawlog production. No stand management prescriptions were developed.

Soil and Water. Same as Goal 1 with the following exceptions: Inventories will used on a minimal basis to provide data timely to resource conflicts. Planning will be reactionary in scope. Unsatisfactory watershed conditions will be corrected by treating high value areas in a cost effective manner where conditions are in an active state of degradation. Treatment will be done on a priority basis with consideration for the highest resource values and risk of resource loss. The maintenance schedule will reflect 33 percent of annual maintenance needs. Monitoring levels will increase as resource activities increase. Selected snow courses and rain gauges will be read.

Minerals. Same as Goal 1 with the following exceptions:
General technical inventory and evaluation will increase slightly over Goal 1. Land exchanges and acquisitions will increase and there will be a concomitant increase in the need for mineral reports. A detailed assessment will be conducted on 80 percent of the NOIs and OPs submitted.

Fire Management. Same as Goal 1 with the following exceptions:
For fire prevention there will be passive media coordination and management of seasonal restrictions Forest-wide. CFFP material will be purchased and distributed randomly (see forest-wide standards and guidelines within the Plan for details on distribution by district). Public and cooperator detection will be utilized to the fullest and supplemented by force account, as needed, to keep acres burned to an acceptable level. Fuels will be modified to reduce hazards and to meet Visual Quality Objectives (VQOs) in harvest and other activity areas. Limited treatments of natural fuels (as part of the Sierra Front Initiative) will be initialed to reduce severe life and property hazards. For fuel break construction, projects will have the following priority: 1) protect life and property; 2) protect the highest resource values; and 3) provide optimal multi-resource benefits.

Facilities. Same a Goal 1 with the following exceptions:
Under transportation system planning and inventory, area plans will be developed for high-use areas other than timber to accomplish resource management objectives. One district per year will be completed. For road operation, a priority list of arterial and collector roads will be developed to initiate traffic studies and determine what roads have questionable jurisdiction. A road operation plan will be developed which includes maintenance management and provides coordination instructions for regulation and control of traffic Forest-wide. Maintenance activities will increase 26 percent to include lower priorities. Facility maintenance will be increased. Primary and secondary base series maps will be updated at least once a year. Transportation planning will be accomplished in conjunction with timber sale preparation activities starting at least five years prior to the scheduled sale date. Timber purchaser activities will comply with Timber Sale Contract sections on road construction and reconstruction. Approximately one-half the total miles of road with primary resource value of timber will be maintained annually. Road standards will be the minimum necessary to provide for safety with minimum impacts on resources. Signing will be designed for user safety with at least 10 percent of the signing program completed annually. Highest priority will be given to reconstructions of existing arterial/collector roads before constructing new ones. A Forest-wide right-of-way acquisition program will be established and two acquisitions per year will be completed. Trails will be located and relocated to minimize resource impacts. A Forest-wide project list will be prepared and updated annually. Engineering on potable water systems will increase 15 percent.

GOAL 3 - A Low Intensity Management Prescription

Purpose: This is a low intensity thrust that emphasizes a mixture of both noncommodity and commodity outputs.

DEFORPLAN Level 7 (Management Emphasis) Identifiers for Goal 3:

--Goal 3 - Applied to all analysis areas in central Nevada and Mount

Charleston portions of the Forest.

--Timber 3 - A Goal 3 prescription applied to all commercial timber analysis areas on the Carson District (Sierra).

--Timber Haul 3 - A Goal 3 prescription applied to all commercial timber analysis areas on the Bridgeport District (Sierra).

--Range 3 - A Goal 3 prescription applied to all noncommercial timber analysis areas in central Nevada and range allotment analysis areas in the Sierra.

Major Forestwide "Functional" Standards and Guidelines by Resource:

Recreation. Same as Goal 2 with the following exceptions:
This prescription fully maintains the RIM system. Recreation sites will be maintained to RIM Condition Class 1 or 2 levels. Administration of recreation special use sites and patrol is at a slightly higher intensity of administration than in Goal 2.

Cultural Resources. Same as Goal 2 with the following exceptions:
Cultural resource inventory and evaluation will be at a higher intensity. Paraprofessionals will be used but not maximized. Cultural resource evaluation will be made on sites with National Register potential where continued degradation may endanger the integrity of the site. Under this goal, an average of one site per five years will be nominated to the National Register. On-site protection, law enforcement, and public education will be emphasized.

Wildlife. Same as Goal 2 with the following exceptions:
In addition to Goal 2, more range studies will be converted to wildlife studies. Timber compartment exams will incorporate the collection of wildlife habitat information. Studies will increase over Goal 2. More areas will be adjusted to a wildlife management emphasis. These areas will need inventories and plans. The number of plans and/or inventories will increase over Goal 2. All projects within key wildlife habitat will have prescriptions written for them. The number of prescriptions, level of monitoring, consultation, and cooperation will increase over Goal 2.

Range. Same as Goal 2 with the following exceptions:
Emphasis will be on directing resources into range improvements to arrest range deterioration on all allotments under an AMP. Management emphasis will be on extensive rather than intensive grazing systems.

Wild Free-Roaming Horses and Burros. Same as Goal 2.

Timber. Same as Goal 2 with the following exceptions:
Stand examinations will only be done to identify stands with insect or disease problems that need treatment to maintain the stand. Stand examinations will be done prior to thinning treatments. Reforestion needed per existing KV plans will be completed and work conducted on the most promising sites. Timber stand improvements needed per existing KV plans will be completed and a low level of acreage thinned to provide a continuing low level of fuelwood. Timber will be managed for outputs of moderate levels of products while maintaining sawlog production capability. Timber sale preparation and administration will be applied around and within developed recreation sites,

and in insect and disease control work. For wildlife purposes, a minimum number of snags will generally be left as follows: 1) on timber land leave 1.44 snags/acre; 2) in aspen/riparian areas leave 4.8 snags/acre; and 3) around openings leave four snags/acre. A moderate level of timber products (mostly fuelwood) will be provided from all components. Sales of fuelwood will continue to be made through timber stand improvement and insect and disease control programs. Small clearcuts and thinning can be used for treatment of dwarf mistletoe. Treatment of insect and disease problems will be undertaken instead of prevention of problems. Fuel treatment standards will be developed and implemented for the Forest through coordination with the "Sierra Front Initiative Vegetative Management Plan."

TIMBR3 and TIMBH3 - There will be no sawlog sales under this goal. No stand management prescriptions were developed.

Soil and Water. Same as Goal 2 with the following exceptions:
Highly significant watersheds will be inventoried. This will eliminate some of the reactionary modes of watershed management. Plans will be based on these inventories. Maintenance will meet 60 percent of maintenance needs annually. Soil and water resource monitoring will be implemented based on a representative sample of all activities that have the potential to degrade soil and/or water resources; and as a check on implementation of "Best Management Practices" and its effectiveness. All snow courses and rain gauges will be read.

Minerals. Same as Goal 2 with the following exceptions:
Inventories for special interest geologic areas and common variety mineral materials will be implemented on a minimum scale. A process by which geologic hazard areas are identified will be developed on the Forest. A detailed assessment will be conducted on 90 percent of the OPs and NOIs submitted.

Fire Management. Same as Goal 1 with the following exceptions:
Fire prevention will be at Level 2 (aggressive). There will be positive media exposure, prompt fire investigation, and follow-up. There will also be aggressive hazard inspections and use of fire restrictions when necessary. Public contact will be through interagency field personnel and the media. All efforts will be intensified during periods of high fire danger and high-use periods. Site specific hazard reduction will be made where appropriate. In addition to Goal 2, this goal calls for joining and integrating with the BLM lightning detection system for the Sierra and Las Vegas, on a limited basis. The size and effectiveness of initial attack organization will increase. Initial attack forces will be selected and cross-trained to productively support other elements and activities when pre-suppression objectives have been met, and when not on fires. Cooperative effort and National Interagency Incident Management System (NIIMS) involvement will increase in intensity. Interagency overhead teams will be established under a unified command concept. The role of joint dispatching will increase. On opportunities to upgrade support functions on an interagency basis will be capitalized. Natural fuel treatment for hazard reduction will be integrated with all other resource needs on an interdisciplinary basis. Interagency programs and involvement will increase wherever feasible.

Facilities. Same as Goal 2 with the following exceptions:
Transportation system analysis will be performed on the entire system. Site surveys will be prepared for high priority structures as determined from the bridge replacement plan. At least one bridge per decade will be replaced. At

least one deferred maintenance project per year will be accomplished. There will be a 120 percent increase in facility maintenance for high priority district projects as determined by the management team. Potable water system standards are the same for minimum or base operation and maintenance with a 30 percent increase in engineering data collection.

GOAL 4 - An Amenity and Noncommodity Prescription

Purpose: A management thrust that emphasizes amenities and noncommodity outputs such as dispersed recreation, wildlife, fish, and soil and water.

DEFORPLAN Level 7 (Management Emphasis) Identifiers for Goal 4:

--Goal 4 - Applied to all analysis areas in central Nevada and Mount Charleston portion of the Forest.

--Timber 4 - A Goal 4 prescription applied to all commercial timber analysis areas on the Carson District (Sierra).

--Timber Haul 4 - A Goal 4 prescription applied to all commercial timber analysis areas on the Bridgeport District (Sierra).

--Range 4 - A Goal 4 prescription applied to all noncommercial timber analysis areas in central Nevada and range allotment analysis areas in the Sierra.

Major Forest-wide Standards and Guidelines by Resource:

Recreation. Same as Goal 3 with the following exceptions:
Recreation planning will be at a level that emphasizes enhancement of dispersed recreation opportunities. In addition to the guidelines for Goal 2, quality dispersed area plans will be done for all significant use areas. This goal incorporates dispersed recreation trends, projections, and long range resource needs in plans. Interpretive plans for all ranger districts will be completed and updated. This prescription calls for refining existing trail plans to ensure responsiveness to increasing dispersed use. This goal improves the quality of data gathered on dispersed recreation use and the opportunities in areas of heavy use. Visual quality inventories will be refined overall. Visual absorption inventories will be intensified. This goal updates trail condition surveys. Dispersed facilities will be constructed as needed to protect public health and safety, and to reduce environmental degradation. Sanitation and trailhead facilities will be added as appropriate, based on use. Selected interpretive facilities will be constructed. Cooperative level will increase with the Inyo National Forest. Visual Information Service (VIS) activities will be intensified in heavy-use areas. Interpretive services will be integrated with administration of dispersed use. Off-Road recreation vehicle plans will be fully administered with optimum signing and patrolling. Trails will be constructed where needed to accommodate increasing use (an average of five to seven miles annually).

Cultural Resources. Same as Goal 3 with the following exceptions:
Programmatic cultural resource inventory and evaluation will be conducted. All significant cultural resource properties will be evaluated. One cultural resource property will be nominated to the National Register every two years until the potential is reached. Cultural resource properties will be enhanced

based on and in coordination with VIS and interpretive plans. Cultural resource permits and special use permits will be handled with maximum efficiency.

Wildlife. Same as Goal 3, with the following exceptions:
Wildlife studies will be systematically established in all key wildlife habitats on the Forest. All range studies will be converted to habitat studies. Timber compartment exams will reflect habitat data base needs. Studies will increase over Goal 3. Habitat management plans will be systematically developed for all areas on the Toiyabe. Plans will be developed in the same manner that allotment management plans are currently generated. Prescriptions will be developed for every project impacting wildlife habitat. The level of monitoring, and consultation will increase over Goal 3. Nonstructural and structural habitat improvement projects will be considered for all wildlife species.

Range. Same as Goal 3.

Wild Free-Roaming Horses and Burros. Same as Goal 3 with the following exceptions:
Management plans will be prepared for all territories. All objectives in territory management plans will be met. Analysis of the management situation will be conducted to determine if vacant territories should be eliminated or if they have potential for being restocked. A similar analysis will be conducted to determine if territory boundaries should be adjusted or remain as established in 1971. Opportunities to enhance wild horse and burro requirements within existing territories will be explored.

Timber. Same as Goal 3 with the following exceptions:
The silvicultural standards are the same as in Goal 2.

Stand examinations will be completed before any vegetative manipulation or cultural treatment and within areas of insect or disease problems. Natural regeneration tries will be checked three years after harvest. If not already adequate for stocking standards, planting will be scheduled. The best residual basal area will be utilized to maximize stand growth, with the exception of residual basal area for wildlife habitat needs. A low level of acreage will be thinned to support the fuelwood program. Timber management for sawlogs will be in response to other resource needs, and products will be produced at a moderate level. For wildlife purposes a minimum number of snags will generally be left as follows: 1) for timber lands leave 1.8 snags/acre; 2) for aspen/riparian areas leave 4.8 snags/acre; and 3) around openings leave four snags/acre. A low level of MCF output of timber by commercial sawlog sales will likely occur as the result of wildlife habitat improvement projects. A moderate level of timber products (mostly fuelwood) will be provided from all components. Small clearcuts and thinnings can be used for treatment of dwarf mistletoe. Treatment of insect and disease problems will be undertaken instead of prevention of problems. Fuel treatment standards for the Forest will be developed and implemented through coordination with the "Sierra Front Initiative Vegetative Management Plan." Law enforcement activities have a high priority. A law enforcement plan will reflect a high level of planned work and training for timber law enforcement. The law enforcement plan will emphasize prevention measures. Patrols and projects for law enforcement in timber areas will be planned and implemented. Timber needs .45 person/years under this goal.

TIMBR4 FH--FH and TIMBH4 FH--FH - same as Goal 2.
TIMBR4 FH-2CT and TIMBH4 FH-2CT - "
TIMBR4 FH-3CT and TIMBH4 FH-3CT - "
TIMBR4 2CT-FH and TIMBH4 2CT-FH - "
TIMBR4 2CT2CT and TIMBH4 2CT2CT - "
TIMBR4 2CT3CT and TIMBH4 2CT3CT - "
TIMBR4 3CT-FH and TIMBH4 3CT-FH - "
TIMBR4 3CT2CT and TIMBH4 3CT2CT - "
TIMBR4 NONCUT and TIMBH4 NONCUT - "

Soil and Water. Same as Goal 3 with the following exceptions:
All Forest watersheds will be prioritized for implementation of inventories and planning. Improvement projects will be completed, as identified through planning, on all Forest watersheds. All water claims will be quantified. Maintenance will be scheduled to meet 100 percent of maintenance needs annually. Monitoring plans will be developed and implemented for the analysis area.

Minerals. Same as Goal 3 with the following exceptions:
Land acquisitions will be accelerated, requiring greater mineral evaluation effort. Noncommodity resources will be emphasized during acquisition of lands. Districts will implement an inventory and evaluation process for special interest geologic areas. A process by which geologic hazard areas could be inventoried will be developed.

Fire Management. Same as Goal 3 with the following exceptions:
A D-4 or equivalent size tractor will be acquired for suppression and project work. Forest-wide fuel inventories will be completed for comprehensive multi-resource vegetation managment plan(s). Emphasis will be on the Sierra front, Las Vegas, and other priority areas of natural fuels.

Facilities. Same as Goal 3 with the following exceptions:
Dam administration and management, operation, and maintenance will be the same with a technical inspection performed annually on 50 percent of the moderately hazardous dams.

GOAL 5 - A Market Prescription

Purpose: A management thrust that emphasizes timber, range, developed recreation, minerals, and special uses.

DEFORPLAN Level 7 (Management Emphasis) Identifiers for Goal 5:

--Goal 5 - Applied to all analysis areas in central Nevada and Mount Charleston portion of the Forest.

--Timber 5 - A Goal 5 prescription applied to all commercial timber analysis areas on the Carson District (Sierra).

--Timber Haul 5 - A Goal 5 prescription applied to all commercial timber analysis areas on the Bridgeport District (Sierra).

--Range 5 - A Goal 5 prescription applied to all noncommercial timber analysis areas in central Nevada and range allotment analysis areas in the Sierra.

Major Forest-wide "Functional" Standards and Guidelines by Resource:

Recreation. Same as Goal 4 with the following exceptions:
Recreation planning for Goal 5 is at a level that emphasizes enhancement of developed recreational opportunities. In addition to Goal 2 for general recreation planning, plans will emphasize activities that increase returns to the treasury, and which identify opportunities for new revenue-producing concessions and recreation special uses. Interpretive planning will identify opportunities to interpret commodity activities for the general public. In addition to Goal 2 for general recreation inventory, Goal 5 maintains RIM and refines it for developed sites and composites. Selected recreation sites will be reconstructed to preclude future closure due to deterioration. One or two new developed sites will be constructed every decade. All recreation sites will be operated at full service. All cost-effective sites will be brought up to and maintained at standards. This goal allows the minimum resource treatment necessary to provide safety and prevent accumulative site degradation; while preparing vegetation managment plans for priority developed sites. Trail construction will be done where needed to enhance developed sites.

Cultural Resources. Same as Goal 4 with the following exception:
This goal enhances cultural resource properties based on and in coordination with developed recreation use and plans in addition to those in Goal 4.

Wildlife. Same as Goal 4 with the following exception:
Wildlife studies will be limited to MIS. The number of studies undertaken would be the amount necessary to provide data for the maintenance of viable populations of MIS. Prescriptions will be developed for every project impacting wildlife habitat. The level of monitoring and consultation will increase over Goal 4. Nonstructural and structural habitat improvements will be restricted to maintain minimum viable populations of MIS.

Range. Same as Goal 4 with the following exceptions:
Under this prescription, the Forest Range Action Plan will be fully implemented to obtain optimum forage production and utilization. Range analysis and the development of allotment management plans will be completed for all allotments as scheduled. Objectives of implemented AMPs will be met. A systematic inventory and evaluation of resource data will be performed. Implementation of management systems and installation of range improvements, both structural and nonstructural, will be scheduled for high and moderate priority allotments at a higher level approaching the optimum for increased forage production. These latter two tasks may or may not be as scheduled on low priority allotments. Monitoring will occur on all allotments as planned. Permittee participation in all management aspects will be sought.

Wild Free-Roaming Horses and Burros. Same as Goal 4.

Timber. Same as Goal 4 with the following exceptions:
Silvicultural examination and stand treatment are the same as for Goal 2 except that they will be accomplished every 10 years. Silvicultural examinations in pinyon/juniper stands are the same as for Goal 2. The best residual basal area will be maximized. Research will be conducted to determine the best thinning schedule and stocking level. All stands will be thinned on a 20-year cycle. Timber management will be intensive to produce high outputs of sawlogs and fuelwood. Silvicultural standards are the same as for Goal 2. All opportunities will be utilized to provide fuelwood. High MCF output will be the primary goal. For wildlife purposes the minimum number of

snags that will be left is the same as in Goal 2. Any silvicultural standard can be applied in any visual zone except within 300 feet of developed recreation sites and along major highways. For species included in the timber base, a high program of work will be done.

Insect and disease detection surveys and evaluations will be accomplished routinely. Emphasis will be placed on identifying high risk potential in stands and determining if prevention efforts are needed to control losses. Emphasis will be placed on thinning overstocked Jeffrey pine stands to reduce the risk of bark beetle attacks. Emphasis will also be placed on dwarf mistletoe surveys and control measures in all timber stands. Small clearcuts, taking into consideration other resource values, may be used where not normally permitted. Fuel treatment standards for the Forest will be developed. Standards will be used to determine when slash treatment is needed and how much treatment needs to be done to reduce fuel loading to an acceptable level. Coordination with the "Sierra Front Initiative Vegetative Management Plan" will be used. Slash treatment will be done to either meet fuel loading standards or to a high level of slash reduction if fuel loading standards are lacking. All acres of activity created fuels will be treated.

Timber needs 0.68 person-years under this Goal.

TIMBR5 FH--FH and TIMBH5 FH--FH - Same as Goal 2
TIMBR5 FH-2CT and TIMBH5 FH-2CT - "
TIMBR5 FH-3CT and TIMBH5 FH-3CT - "
TIMBR5 2CT-FH and TIMBH5 2CT-FH - "
TIMBR5 2CT2CT and TIMBH5 2CT2CT - "
TIMBR5 2CT3CT and TIMBH5 2CT3CT - "
TIMBR5 3CT-FH and TIMBH5 3CT-FH - "
TIMBR5 3CT2CT and TIMBH5 3CT2CT - "
TIMBR5 NONCUT and TIMBH5 NONCUT - "

Soil and Water. Same as Goal 4 with the following exceptions:
Inventories will be used on a minimal basis specific to timely resource conflicts. Planning will be reactionary in scope. Unsatisfactory watershed conditions will be corrected by treating high value areas; treatment will be prioritized with consideration for highest resource values and risks. Maintenance will be scheduled to meet 33 percent of annual needs. Monitoring will be restricted to commodity related resource programs.

Minerals. Same as Goal 4 with the following exceptions:
The emphasis under this prescription will be to produce minerals while maintaining noncommodity resources at an acceptable level. Land exchanges and/or acquisitions will be used to obtain land containing commodity related resources. An inventory of special interest geologic areas will not be undertaken. Districts will undertake inventories to determine the location and extent of common variety mineral materials. Validity examinations will be used on a case-by-case basis. Validity examinations will be used on those projects where reclamation measures cannot adequately mitigate the long-term loss of resources. All NOIs and OPs submitted will be processed.

Fire Management. Same as Goal 4 with the following exceptions:
Program leadership in the Supervisor's Office will increase from 1/2 to 2/3 person year.

All integrated Forest-wide inventories for comprehensive multi-resource vegetation management will be completed for the Sierra Front, Las Vegas, and other areas where resource opportunities exist. This prescription has the highest level of fuel treatment maintenance and opportunities for commodity outputs in maintenance activities.

Facilities. Same as Goal 4 with the following exceptions:
There will be a 300 percent increase in high priority district projects. Engineering in potable and waste-water systems will increase by 55 percent. Technical inspection will be performed on all moderately hazardous dams and on one-half of low hazard dams. Construction/reconstruction of arterial and collector roads will be accomplished through public works contract.

GOAL 6 - Wilderness Prescription

Purpose: A management thrust that emphasizes wilderness management.

DEFORPLAN Level 7 (Management Emphasis) Identifiers for Goal 6:

--Goal 6 - Applied to all analysis areas in central Nevada and Mount Charleston portion of the Forest.

--Timber 6 - A Goal 6 prescription applied to all commercial timber analysis areas on the Carson District (Sierra).

--Timber Haul 6 - A Goal 6 prescription applied to all commercial timber analysis areas on the Bridgeport District (Sierra).

--Range 6 - A Goal 6 prescription applied to all noncommercial timber analysis areas in Central Nevada and range allotment analysis areas in the Sierra.

Major Forest-wide "Functional" Standards and Guidelines by Resource:

Recreation. Same as Goal 5 with the following exceptions:
Recreation planning will be at a level that emphasizes enhancement of dispersed recreation opportunities. It calls for completion of quality dispersed area plans for all significant use areas. Dispersed recreation trends, projections, and long-range resource needs will be incorporated into plans. There will be a refinement of existing trail plans to ensure responsiveness to increasing dispersed use. This goal calls for improving the quality of data gathered on dispersed recreation use and opportunities in areas of heavy use. Visual absorption inventory will be intensified. Sanitation and trailhead facilities will be added as appropriate, based on use. Development of interpretive associations will be encouraged. Under this goal, an average of five to seven miles of trail will be reconstructed annually; and an average of five to seven miles of new trail will be constructed to accommodate increasing use.

Cultural Resources. Same as Goal 4 with the following exception:
On-site protection, enhancement, and interpretation will be done only when compatible with wilderness values.

Wildlife. Same as Goal 1 with the following exceptions:
Range studies will be converted on a site-specific basis, particularly on those areas with a wildlife management emphasis. The number of studies will increase over Goal 1. Plans and inventories will be developed on a

case-by-case basis. The number of plans and/or inventories will increase over Goal 1. Project related work will increase. The level of monitoring will increase over Goal 1. Structural habitat improvement will be for MIS and selected wildlife species.

Range. Same as Goal 1 with the following exceptions:
Emphasis is placed on intensive management systems, where cost-effective, for allotments outside wilderness areas. Opportunities to increase forage production by vegetative manipulation and to convert secondary range into primary range will be exercised. Permittee participation in nonstructural as well as structural improvements will be sought. Extensive management systems will be applied to allotments within wilderness areas. Stocking will be based on proper-use criteria compatible with wilderness values. Priority will be given to arresting range deterioration on allotments in wilderness areas over allotments outside of wilderness areas. Permittee cooperation as well as economics will be important criteria in monitoring grazing within wilderness areas.

Wild Free-Roaming Horses and Burros. Same as Goal 5 with the following exception:
The opportunity to enhance wild horse and burro populations using structural and nonstructural range improvements will occur primarily on territories outside of wilderness areas.

Timber.
Timber areas within wilderness will be removed from the timber base.

Planning needed within wilderness will be done to monitor stand conditions. Planting will not be done for timber management purposes. Planting may be done for other resources within wilderness. Timber management does not apply within wilderness. Requests for timber on mining claims will be reponded to, and a sound silvicultural procedure will be prescribed that maintains the character of the stand to preserve wilderness values. Insect and disease activities will be monitored within wilderness. Control measures will be considered and undertaken if insects or disease are seriously affecting wilderness qualities.

Where needed, silvicultural examinations and prescriptions will be the same as in Goal 1. The pinyon nut resource will be managed the same as in Goal 1. Law enforcement will be the same as in Goal 4.

TIMBR6 and TIMBH6 - There will no timber management under this goal.

Soil and Water. Same as Goal 1.

Minerals. Same as Goal 1 with the following exception:
No new claims will be filed after December 31, 1983 (Wilderness Act 1964).

Fire Management. Same as Goal 2 with the following exception:
Treatment of natural fuels and fuel-break construction are not applicable.

Facilities. Same as Goal 1 for: transportaion system planning and inventory; bridge and major culvert preconstruction and reconstruction; and dam administration.

Same as Goal 2 for: minimum or base operation and maintenance; road operation; facility maintenance; transportation planning; and engineering, construction and reconstruction of arterial/collector roads and trails.

Same as Goal 3 for: FA&O construction and reconstruction guidelines.

The preceding standards and guidelines by goal are a condensed form of the "Forest Plan Guidelines and Standards" book. See also the Regional Guide for standards and guideline direction. These is located at the Forest Supervisor's Office in Sparks, Nevada.

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APPENDIX F

APPENDIX F

BIOLOGICAL EVALUATION OF THREATENED AND ENDANGERED SPECIES
Toiyabe National Forest

I. Listed Species

The listed species subject to this evaluation are the only federally classified species which occur on the Toiyabe National Forest and are listed below:

A. Bald Eagle (Haliaetus leucocephalus) (E)
Peregrine Falcon (Falco peregrines) (E)
Lahontan Cutthroat Trout (Salmo clarki henshawi) (T)
Paiute Cutthroat Trout (Salmo clarki seleniris) (T)

B. Occupied Habitat

1. Bald Eagle - Bald eagles occur within the Toiyabe National Forest boundary. However, there are no known nesting areas or potential breeding habitat. Habitat for bald eagles currently consists of resting areas for migrating eagles, one known night-roosting site, and wintering foraging areas at some of our larger high-altitude lakes. As these lakes become frozen bald eagles move to lower elevations off the Forest.

2. Peregrine Falcon - Historically, it is thought the Toiyabe provided nesting and foraging habitat for peregrine falcons. There are no known peregrine nest sites on the Forest although there is a possibility an eyrie could exist without our knowledge. Current peregrine use on the Forest is thought to be only for migratory falcons. There may be potential to reintroduce peregrines on the Forest, particularly the Carson and Bridgeport ranger districts.

3. Lahontan Cutthroat Trout - Lahontan cutthroat trout (CT-L) formally occurred and still occur on four Ranger Districts on the Toiyabe National Forest. The current distribution and population is much reduced from former levels.

4. Paiute Cutthroat Trout - Paiute cutthroat trout (CT-P) occur only in Silver King drainage of the Carson ranger district. All of the native habitat of CT-P is on Carson RD and as with CT-L populations and distribution of CT-P is reduced to remnants of their former range and numbers.

C. Analysis of Effect

1. Bald Eagle - A no effect situation is expected on the bald eagle with the preferred alternative. Since the Forest provides very little bald eagle habitat and there are no changes proposed for the habitats that are used, no positive or negative effects are expected.

2. Peregrine Falcon - The preferred alternative provides for the enhancement of riparian habitats. With improvement of riparian habitats, foraging areas for peregrines would also be expected to improve. Recognizing the potential to reintroduce peregrines, and improved riparian habitats, the preferred alternative supports reintroducing peregrine falcons. A strong effort by the Forest would be made to reintroduce peregrine falcons. The preferred alternative represents a positive effect on the peregrine falcon.

3. Lahontan Cutthroat Trout - In the preferred alternative there are strong riparian area standards and guidelines some of which are specific to streams with CT-L. There is specific direction regarding where CT-L will be reintroduced and references to following state (CT-L management plans and Fish and Wildlife Service recovery plans for CT-L. Delisting CT-L should occur within the life of the Plan. The preferred alternative represents a positive effect on CT-L.

4. Paiute Cutthroat Trout - As with CT-L, the strong standards and guidelines for riparian areas and specific standards and guidelines for streams with CT-P indicate CT-P habitat will improve. The preferred alternative also stipulates adherence to the FWS Paiute Cutthroat Trout Recovery Plan. There is a good possibility CT-P would be delisted within the life of the Plan. The preferred alternative represents a positive effect on CT-P.

II. Candidate Species

Candidate Species subject to this evaluation are listed below. There are no Proposed Species subject to a biological evaluation.

A. Animals

Mono Basin Mountain Beaver (*Aplodontia rufa californica*) CA.
Owens Valley Vole, (*Microtus californicus valliali*) Ca.
Spotted bat (*Euderma maculata*) Ca.
Swainson's hawk (*Buteo swainsoni*) NV.
Ferruginous hawk (*Buteo regalis*) NV.
Mountain plover (*Charadrius montanus*) NV.

Plants

Sierra sedge, Carex paucifructus (2) Ca.
Mono buckwheat, Eriogunum ampullaceum (2) Ca.
Mono phacelia, Phacelia monoensis (2) Ca.
Tahoe yellow-cress, Rorippa subumbellata (1) Ca.

B. Occupied Habitat - The Mono Basin Mountain Beaver (MB), based on available literature, probably occurs throughout the Sierra in suitable moist habitats. At one time the Toiyabe considered the MB as a management indicator species (MIS). The MB was dropped as a MIS because of the lack of specific data on occupied sites and our ability to locate and monitor MB habitats and populations.

It is probable spotted bats occur at some time on the Forest. However, we have no specific knowledge of spotted bat habitat on this Forest. The Las Vegas Ranger District contracted a study to ascertain if spotted bats occurred there. The study did not locate spotted bats.

Swainson's hawk, the ferruginous hawk, and the mountain plover also probably occur on or utilize Toiyabe lands. As with the three candidate mammal species above, we have no specific data indicating nest sites or other key areas on the forest.

The Toiyabe would appreciate any information the FWS could provide this Forest on known key areas for any of the candidate wildlife species.

Plants

C. Analysis of Effect (Wildlife)

A no-effect or positive-effect assessment on all wildlife candidate species is warranted with the preferred alternative. This assessment is based on the following:

1. The Forest is committed to maintaining viable populations of all native wildlife species.

2. Raptors such as the Swainson's and ferruginous hawks, generally receive more emphasis than other "non-status" wildlife. The ferruginous hawk is recognized in the document "A Program to Manage and Improve Fish and Wildlife Habitats on the National Forests of Nevada" as "sensitive."

3. Riparian area management is emphasized in the preferred alternative thus MB habitat would be maintained or enhanced.

4. Very little vegetative manipulation is scheduled with the preferred alternative. Timber sales would not effect any candidate species, perhaps with the exception of MB, and meadows and other riparian areas would be protected.

5. Spotted bats are state listed (NV-Threatened or Rare). As data becomes available on key areas on the Toiyabe, appropriate protection for these habitats would be afforded.

Plants

The minimum management requirements (MMR's) of Alternative P provides management practices to discover the presence or absence of sensitive plants and to protect and enhance them. The alternative also contains standards and guidelines to maintain viable populations of each sensitive plant.

APPENDIX G

APPENDIX G

The following is a detailed description of the intensively used developed canyons (Management Area 11) on the Las Vegas Ranger District.

KYLE CANYON

Kyle Canyon is approximately five miles in length and two miles in width. The canyon is deeply incised into the mountain range with upper ridge lines extending above 11,000 feet. Steep slopes and sheer cliffs confine most recreational activity and development to the canyon floor.

In 1972 a sample survey for archaeological sites was conducted in the canyon. No significant prehistoric sites were located at that time.

Wildlife is limited primarily to small species as human occupancy has generally forced big game to more remote locations outside the management area.

Subdivisions have been platted for over 500 lots. Homes are located in the canyon and on bench lands. In several locations tightly-clustered buildings disrupt the scenic quality along the highway. It is likely that construction will continue on undeveloped lots. Aesthetics, fire hazard, sewage disposal, water supply, solid waste, road improvements, and utility lines are of increasing concern as the community grows.

Controling erosion and minimizing earth disturbance during construction are necessary to avoid soil degradation. Flood threat to low-lying lands adjacent to canyon drainages has been increased by channelization, road construction, and impervious roof surfaces. Controls to achieve desirable community growth and services are exercised through Clark County ordinances.

The Charleston Park subdivision is the oldest residential tract and is locally referred to as "Old Town." The area is platted for 110 lots. Echo View has a total of 136 lots. Cathedral Rock View subdivision has 49 lots. The Mount Charleston Lodge is nearby, with a restaurant and bar facility. The Rainbow Canyon subdivision is platted for 228 homesites on a large bench formation south of the highway.

The high density of private homes creates the potential for a rapidly speading catastrophic fire, should one start. The topography and natural fuels are also conducive to major fires. Historically, there have been several large fires, all man-caused. In 1924 fire burned over 3,500 acres along the southern slopes at the mouth of Kyle Canyon. In Burnout Canyon, on the upper slopes of Trail Canyon, 1,550 acres burned in 1947. Near Fletcher Canyon, 203 acres of northern slopes burned in a 1965 fire. Potential for catastrophic fire is high in certain areas, particularly in the Rainbow Canyon subdivision. Routes for evacuation are recommended around areas of high risk.

The Nevada Division of Forestry provides fire protection for private lands and structures. The Forest Service is responsible for suppression on

Forest lands. Because of the number of recreationists visiting the canyon, presuppression efforts and fire prevention contracts are required.

Avalanches pose a serious threat to developments in some locations. Major avalanche paths generally have not been considered in the development of private lands. . Deaths and property destruction have resulted. Snow depths and avalanche potential vary radically from year to year. In 1969 an avalanche on the south-facing slope above Echo Subdivision took three lives and destroyed residences. Location of the Mount Charleston Lodge is near the outrun of a major avalanche chute. Danger is remote, but an unusually severe winter could create hazardous conditions. Another major avalanche chute terminates on public land between Old Town and Rainbow Subdivision. It poses little hazard to property but it could endanger the lives of winter recreationists.

A two-lane, paved highway winds along the canyon floor. Its design tends to keep traffic at about the speed limit of 35 mph. Widening the highway would encourage faster speeds, possibly increase traffic, and encroach on the drainage channels. Any change in alignment and width would radically change the aesthetic appeal of driving through the canyon.

First-time visitors are funneled into Kyle Canyon by current highway design. Seeking higher elevations, they follow the highway to its end. Cathedral Rock Picnic Area receives intense use principally because it (and the adjacent private lodge) lies at the end of the paved highway. Much sight-seeing traffic circulates through the site.

There is a potential to redesign or relocate the Deer Creek intersection. A one-way loop at the end of the highway has been proposed.

Kyle Campground has 22 family units designed to accomodate 110 people. Fletcher View Campground has 12 units accommodating 60 people at one time. A fee is charged for use of these sites and is an important management tool and source of maintenance revenue. The current fee system does not provide for a charge at picnic areas.

Midway between these two sites is the Kyle Canyon Guard Station. The historical Kyle Sawmill was located in this area. This administrative site was constructed in the late 1930s during the Civil Conservation Corp - Work Project Administration (CCC-WPA) era. An Air Force Recreation Center was once located on a portion of the site. A now abandoned well, 274 feet deep, was drilled at the guard station in 1965. The well went dry in 1972, probably due to a lowered water table. More recently, well-water tests have indicated pollution.

Cathedral Rock Picnic Area is at a general elevation of 8,000 feet below the spectacular cliff formations of Cathedral Rock and Echo Cliff. Limitations on development are primarily related to snow avalanches and two major rock slide paths. Portions of Cathedral Rock Picnic Area are in the deposition zone of the Mazie Canyon slide path.

Cathedral Rock contains 76 family picnic units and two group units, one for 80 people and one for 100 people. Total site capacity is 515 people at one time. Currently there are no fees charged except for group use. Trails commencing at or near the picnic area provide access to local features and the higher elevations.

Upper Kyle Canyon is accessible over a maintained gravel road from the paved highway. Vehicular travel is discouraged by a gate at the entrance to the former Mary Jane Falls Campground. This site was constructed in 1965 and contained 50 family units. In December of 1966 a high intensity storm caused considerable flood damage. A storm in July of 1968 again caused much damage. An avalanche in 1969 further damaged facilities, leading to their removal in 1973. A well, drilled in 1965, is 265-feet deep and is now abandoned. A snowcourse is located above the former campground site.

The upper canyon has potential to absorb a greater number of recreationists than does the lower portion. The nearby forested slopes and high cliffs are picturesque and awe-inspiring. Attractions include Big Falls and Mary Jane Falls. A system of high-quality trails is proposed, leading from centralized parking.

Flood damage has occurred in developed recreation sites. Physical reinforcement of channels has been necessary in some locations as protection or restoration measures. Water systems are complex and include a number of abandoned water lines. Several springs were developed, including extensive water transmission lines, in the late 1930s during the CCC-WPA era. Water is now provided by the Kyle Canyon Water District, administered by the Las Vegas Valley Water District.

The phone line to Lee Canyon leaves private land and ascents the ridge line, crossing the North Loop Trail in Trail Canyon. This line is mostly above ground but has been buried in some places. The existing installation should be relocated as soon as feasible.

Harris Mountain is accessible along a low standard, single lane road. The road was constructed during the WPA era and is approximately nine miles in length. Only the last three miles are within the National Forest. After crossing the ridge dividing the drainage, the road dead-ends on steep side slopes in Lovell Canyon. Construction was halted with the end of WPA funding, leaving the road one-half miles short of a saddle between Kyle and Lovell canyons. The last one and one-half mile of the road is extremely narrow with no passing room and a difficult turn-around at the end. For safety purposes, installation of a gate or barricade has been proposed to close this section of the road. A trail leads from the end of the road to the Kyle Canyon saddle and then up the ridge to the South Loop Trail.

The Kyle Canyon Summer Home Area is located just above private home development in Rainbow Canyon. Individual lots were planned in 1947 for the purpose of constructing private recreational residences. The site was originally platted for 45 lots. There are currently 16 homes under term permit. Most of the homes are older, rustic, wood structures. The remaining lots were withdrawn from further leasing in 1962. Septic tanks primarily are used for sewage disposal. Permittees pay an annual fee for use of Forest land. The permits have an expiration date of December 31, 1998. The Rainbow

Canyon Summer Home Association was formed to promote common interests and to maintain the water system and roads.

A road into Fletcher Canyon was built to develop a spring box and transmission line. This water line is now abandoned but once led to private land just outside the Forest boundary. The Fletcher Canyon road also serves a weather station and helispot, and travel is restricted by a closed gate. An abandoned road leads to Stanley B Springs which was developed by the Forest Service for a water tranmission line. Old lead mine tailings are just above the springs.

Two potential recreation sites are located north of the highway on bench lands separated by Fletcher Canyon. The westernmost site is called Pinyon Mesa; the other, Fletcher Canyon. Vegetation is dominated by pinyon/juniper woodland. A large portion of the Fletcher Canyon site burned in 1965 and reforestation will be necessary to restore forested conditions. Part of this site is also used for the helispot and weather station. Relocation of the highway to eliminate the existing Deer Creek intersection could make this bench accessible. There is also good potential for a visitor center in this area.

Pine Canyon has been logged and has suffered from fire, resulting in stringers of pine with intervening brush fields. Rainbow Canyon is densely forested with pine and fir. These lands are now primarily valued for watershed and aesthetics rather than for timber production. Old logging roads in poor condition lead into the basin of Pine Canyon. A snow course exists in upper Rainbow Canyon for snowfall measurement and water yield prediction.

DEER CREEK

The all-weather paved State Highway 158 interconnects Kyle with Lee canyon. Built in 1962, it is about nine miles in length and ascends to the 8,400 foot elevation. It traverses predominantly pine-covered slopes below Mummy Mountain.

The majority of visitors are sight-seeing and may make brief stops along the way. The scenic resource attracts many visitors and provides good interpretive opportunities.

Deer Creek is the only permanent flow of overland water on the eastern slope. The spring-fed creek is small and percolates back under ground. It provides a unique attraction in the Deer Creek Picnic Area.

A significant point of interest is Robber's Roost Cave. A large paved turnout provides parking, and a steep, but popular, trail ascends to a rocky cliff formation a short distance from the highway. There is potential to develop a high-quality interpretive trail to this feature.

About one mile beyond Robber's Roost is the Angel Peak road intersection and entrance to Hilltop Campground. Less than one-half mile of the Angel Peak road is actually on the Forest and authorized by a Special Use Permit. The narrow paved road provides access to the Spring Mountain Youth Camp and Angel Peak Radar Station on the summit. Hilltop Campground contains 38 units with a capacity for 190 people. Trailers are prohibited because the road is narrow and parking spurs are short. The site design is more appropriate for a family picnic area and day-use.

On June 29, 1975, a man-caused fire rapidly spread up a steep canyon adjacent to Robbers Roost. On July 4, 1976, a man-caused fire started near Hilltop Campground, threatening recreation sites in this vicinity. This latter burn was seeded with succulent forbs for wildlife benefit, but germination was poor.

The western one-half of Section 7 is privately owned. Ten of these acres have been platted in 72 small lots. There are 12 older rustic cabins and homes constructed near the head of Deer Creek, some probably were once associated with the old sawmill site nearby. Part of this tract lies at the base of a major avalanche path. The cabins are accessible over about one mile of primitive road, one-half of which is on National Forest land.

A spring development constructed by the Forest Service lies within this private land. A concrete tank installed on the hillside is about 935 feet above the boundary. A 10-foot wide right-of-way was granted to the Government in 1932 for water transmission purposes. The Forest Service has rights to the first cubic foot-per-second, and the Air Force to the next .04 cubic foot-per-second. The water is piped to Deer Creek, Mahogany Grove, and Hilltop recreation sites, and to the Spring Mountain Youth Camp and radar station on Angel Peak.

Deer Creek flows year-around in the lower half of this private land, with the flow often extending through Deer Creek Picnic Area most of the summer. Extensive development of private lands above could easily alter the limited aquatic areas, disrupt the fragile ecology, or pollute the water. The uniqueness of the water flow merits protection.

Aside from the cluster of homes in upper Deer Creek and the access road, the remainder of the land is relatively undisturbed. A primitive road leads into the canyon on the north fork of Deer Creek which is often used for a church camp in the summer. The area has poor escape routes and could be dangerous during high-fire conditions. Immediate evacuation should occur with any fire threat.

A second block of privately-owned land is located in Section 25 and 36 near the Lee Canyon Highway. The Deer Creek Highway passes through the upper portion of the fee land. The property is undeveloped, but subdivision has been proposed. The lower bench-land formations have potential for public recreation development. This portion of the property is accessible over the primitive Champion Road. There are approximately 254 acres in fee ownership. The parcel is forested primarily with pinyon/juniper. The highway descends from Desert View through the upper portion of this private land and intersects with the Lee Canyon Highway.

A potential recreation site is located above the highway on the old Mofford's Sawmill site. The site has been named Avote with proposed development for 30 to 40 family units. Below the highway on a rather large alluvial terrace, is the Tres Piedras site proposed for 200 units. The site is named for three large rock formations along the Champion Road.

Across the Lee Canyon Highway is the proposed Portals Campground for 75 to 100 units. From this pinyon/juniper site the views of Charleston Peak, Mummy Mountain, and the Sheep Mountains are excellent. The site is bordered on the upper side by the Mack's Canyon road. Several small archaeological sites are adjacent to the proposed campground, offering interpretive possibilities.

LEE CANYON

Lee Canyon is approximately four miles in length and two miles in width. The canyon is deeply incised into the mountain range with upper ridge lines above 10,000 feet. Steep slopes and sheer cliffs confine most recreational activity and development to the canyon floor. It is accessible by all-weather, paved State Highway 156. The highway commences at US Highway 95 at 3,200 feet, and extends upslope over desert land to the ski area parking lot at 8,500 feet, a total distance of 18 miles.

Special land uses are few, but intensive in nature. The ski area, summer home sites, and two organization camps are under permit as are the associated water developments and a telephone line. Recreation development is concentrated along the upper canyon floor at four separate sites. There is limited opportunity for future development. The concentration of developments in these upper drainages has increased runoff and accelerated erosion loss. Individual sites and the total watershed must be considered during erosion control planning. In the past, structures have often diverted runoff, creating problems downstream.

In 1972, a sample survey for archaeological sites was conducted in the canyon. No significant prehistoric sites were identified at that time. Wildlife is limited to smaller species because human occupancy has generally forced big game to more remote areas outside this management area. Unauthorized livestock use has contributed greatly to degrading vegetative cover on the Meadows and ski area. A drift fence and cattle guard were installed near the Deer Creek Highway junction to prevent livestock, primarily horses, from entering Lee Canyon.

Two subdivisions are located on bench lands above the highway and have been platted for 175 lots. It is likely that private lands will continue to be subdivided. Aesthetics and recreational values, particularly in proximity to the highway, will be affected by continued home construction. Water supply and sewage disposal will become environmental issues. Increasing residential use will create demands for special uses such as access roads, utility lines, and water transmission.

Whispering Pine Subdivision is platted into over 100 lots. In Section 35 approximately 340 acres are undeveloped and mostly in single ownership. An abandoned mine and access road are currently the only unnatural disturbances on the west side of the highway. Private ownership extends south into Section 2 and 11. Tract 39, 114.14 acres, and the north half of Tract 38, about 80 acres, are included. These lower elevations are undeveloped lands, accessible over primitive roads. With the exception of the subdivision, all undeveloped lands have a high priority in land exchange or aquisition programs.

Camp Lady of the Snows has been subdivided for 75 small lots accessible by unpaved streets. A 7.5 acre parcel adjacent to the highway has been used for an organization camp, but is now used for overflow parking at the ski area. The northern half of the tract is essentially undeveloped on both sides of the highway. This aggregate of 39.59 acres, including the site of the organization camp, have high priority in a land exchange or acquisition program. Public benefits could include an organizational site, snowplay area, parking, other recreational development, and maintaining aesthetic quality adjacent to the highway.

There are two small private ownerships near the entrance of the Clark County Organization Camp. A .52 acre parcel with a summer home lies inside the road curve directly across from the McWilliams Campground entrance. A 1.13 acre land title was unclear as ownership was originally granted to both the United States and a private party. Title was conveyed in 1976 to the private party. Dividing the Meadows is a 4.12 acre strip of undeveloped land owned by Clark County. At the lower end of the Meadows is a .98 acre parcel with a dwelling in private ownership.

The right-of-way for State Highway 156 is deeded to the State of Nevada. The width is generally 200 feet on each side of the centerline when contiguous to National Forest lands, and 100 feet of centerline when crossing private ownership.

Snow is an unusal attraction for the typical Las Vegas resident who is unfamiliar with winter driving techniques and is often without chains or snow tires. During winter conditions this can cause safety problems along the highway. Sightseers add to the congestion in the parking area and along the highway, particularly at the Meadows. Several interagency discussions have generated suggestions, alternatives, and some solutions to these traffic problems.

Lee Canyon Ski Area provides an unusual winter experience in a vast desert region. Promotional literature and articles about Las Vegas often mention skiing as one of the variety of recreational opportunities. Recreational use is rapidly increasing in Lee Canyon. Commercial services must be subordinate to this use. Visitors have a multitude of choices in Las Vegas and expanded commercial operations on the Forest would serve no benefit and would only introduce conflicts.

Use projections indicate that demand will exceed the potential capacity of the ski area. Parking will be a major limiting factor. This factor, properly used in planning, can be used to effectively control use in relation to designed maximum capacity for lifts, ski runs, and base facilities. Space for additional parking adjacent to the ski area is limited and could cause severe environmental degradation. Impervious parking surfaces are now a major contributor to downstream erosion during intense rainfall.

The ski area parking lot is a widely-paved switchback ending in a turn-around. The parking lot and highway are maintained by the Nevada

Department of Transportation. Law enforcement and traffic control are the responsibility of the Highway Patrol and Clark County Metropolitan Police Department.

Congestion at the parking lot in winter has been a long-standing problem. The lot was planned for a maxiumum of 500 cars, which can only be achieved with parking attendants and complete snow removal. About one-quarter mile below the ski area is an unpaved clearing used as an overflow parking lot. The Forest Service is opposed to further expansion for parking until efficient use is made of the existing surfaces. Alternatives may include time zone parking, eliminating sightseeing traffic, and shuttle bus transportation.

Two tracts of private land were originally within the ski area when first proposed. These were acquired in 1969 by the Forest Service through exchange. Thus, all lands within the ski area are now public. Three major paths and the large expanse of steep slopes above the ski area make avalanche control difficult. Closures have been necessary for public safety during heavy snow accumulation. Avalanches have occurred at frequent intervals due to erratic snowfall.

Erosion loss can be severe on disturbed soils unless erosion control is provided. Loss of top soil and vegetation created some serious erosion problems with channels forming on the ski slopes and alluvium being carried beyond the ski area. Runoff has accelerated and become concentrated, causing downstream scouring and erosion in Lee Canyon. Recent attention has been directed toward erosion control and establishing a 50 percent ground cover of grasses.

In the past, gullies have been reshaped and filled by bulldozer, further exposing fine materials to erosive action. Vehicular travel has left defined ruts for water courses, or cut through water bars. The upper Chair Two area has more subsoil clay, resulting in slower permeability than elsewhere.

The ski area often suffers from erratic snowfall. Some years the ski season may run from December through March; other years there may be only a few weeks of skiing. Artifical snow-making may be an important factor in sustaining a ski season during marginal snow conditions. The required waterlines could also be utilized for summer irrigation of grass cover on ski runs.

There are three known springs within the area. One spring, about one-quarter mile above the Chair Two terminal, provides water for the Lee Canyon water system. The ski area, Clark County Organization Camp, McWilliams Campground, Old Mill Picnic Area, and Foxtail Snowplay Area are served by this system. The water system was reconstructed amd enlarged in 1973. Overflow has been provided at several points as a water source for wildlife. Two wells within the ski area base could be used as a supplemental or independent water source for the ski area and for snowmaking.

The aesthetic appearance is important in both winter and summer. Parking areas, cleared runs, facilities, and utilities all have visual impact. Power is currently generated on-site and distributed by underground lines. Propane tanks and storage of materials is often conspicuous.

McWilliams and Dolomite are developed sites just below the ski area. The 19-acre McWilliams site has been used as a developed campground since 1937 when facilities were first installed by CCC labor. The name is in recognition of James T. and Iona McWilliams. McWilliams was a surveyor who in 1904 surveyed the Las Vegas Ranch which was auctioned as the Las Vegas Townsite in 1905. The county operated and maintained the campground for several years. The campground was extensively expanded and improved in 1969 and paved in 1970.

A snow course is located in the drainage above McWilliams recreation site. The upper section of Road 20071 is narrow and closed to public travel. It is used rarely for administrative needs such as fire or rescue evacuation. The road is used as an access trail to divide the trail system at higher elevations. A trailhead near McWilliams would improve dispersed use.

Dolomite Campground was expanded in 1969 and the roads were paved in 1970. A separate entrance was provided to serve the site. An old road between the two campgrounds was closed to eliminate traffic past the units in McWilliams. Dolomite has 31 units with a capacity for 155 people.

Old Mill Picnic Area was built on a 22-acre site in lower Scout Canyon in 1974. Centralized parking lots were designed to minimize impacts of the road system serving individual units. The capacity is for 500 people who can be seated at 74 tables. A sawmill in upper Scout Canyon was constructed in 1906 by the Lincoln County Lumber Company; it burned in 1910. Concrete foundations of a small operation from the late 1940s are still intact. The name "Old Mill" was derived from these sawmill enterprises.

Two special-use organization camps are administered by Clark County and the Frontier Girl Scout Council. The camps are located in canyon bottoms below large expanses of exposed rock. Rapid runoff characteristics create a flood threat during heavy cloudburst activity. Accelerated runoff from the ski slopes above the county camp increases this potential.

Location of facilities should be planned to avoid natural drainage channels. Enlarging, straightening, and diverting natural channels has concentrated, rather than dispersed, runoff. Erosion control should contain water on-site rather than diverting it. Disturbances need to be revegetated. Septic tanks may become a source of pollution to underground water.

The Lee Canyon Youth Camp was built in 1936 under WPA programs during which many trails, roads, and facilities were constructed. The lands were donated by J.T. McWilliams for permanent use to benefit public recreation. Other lands in this area were purchased from McWilliams by the Forest Service. Government-owned buildings include seven dormitory cabins, a dining hall, bathhouse, power house, storage structures, recreation hall, and two dwellings.

In 1946 the Forest Service issued a Special Use Permit to the Clark County Recreation Board to operate the camp for children and organized groups. The existing permit was issued in May, 1982, for a period of 20 years to the Board of County Commissioners. Since this permit is issued to a public agency, no charge is made for occupancy of the site and government facilities.

Above the county camp is a snow course established in 1962 at an elevation of 8,500 feet. Average water content on March 1 is 8.8 inches and on April 1 is 8.9 inches. Preservation of this snow course is important to meaningful measurement of annual water yield and snowfall.

Foxtail Girl Scout Camp contains a dining-recreation hall, office, infirmary, residence, three dormitory cabins, and several storage and toilet buildings. Separate complexes of tent platforms are provided for troop camping. The permit was first issued in 1952 for five acres. It was reissued for 20 years in January, 1969, for 15 acres. An annual fee is charged for this occupancy based on land appraisal. Construction of most facilities commenced in 1956.

An underground telephone cable passes through the camp and provides phone service to Lee Canyon. Also buried under the road is a water line serving the camp from a developed spring three-fourths mile up the canyon. This water system was developed independently for the camp and serves no other sites.

Current access is from the highway up Foxtail Canyon over a graded road of about three-fourths mile. Snow removal is necessary during winter. Conflicts between the Girl Scout Camp and public use in the Foxtail Snowplay and Group Picnic Site are envisioned. Eliminating traffic to the camp via Foxtail Canyon would better isolate the camp and provide a buffer. The site is separated from the county camp by an intervening ridge. A short road over this ridge to the county camp, using portions of older existing roads, could provide improved access.

The Foxtail Snowplay and Group Picnic Site was contracted in 1974. The unit is designed for 400 people in winter and 225 in summer. Parking will accommodate 102 vehicles. Sliding areas are provided for winter tubing and sledding. Three separate group units, seating 75 people each, are provided for summer group reservations. This site was developed primarily to alleviate parking congestion and safety problems adjacent to the Meadows.

The Meadows is a flat, grassy area of 20 acres that has received intense recreational use because of proximity to the highway. Ball diamonds and playground equipment were once located on the Meadows. Construction of the highway concentrated runoff into a single drainage resulting in a gully up to six feet in depth. Soil compaction and vegetation trampling from public use reduced ground cover and increased erosion. Trespass horses also caused damage.

Deterioration of this aesthetic site led to attempts to discourage heavy public use. The county camp was asked to use other areas for organized sports. Boy Scouts and similar organizations were requested to camp elsewhere. Rules were established in 1973 to control litter, abolish overnight camping, eliminate campfires, and exclude livestock grazing.

Water lines have been extended to the Meadows. Sprinkers, fertilization, and reseeding to maintain the Meadows have been suggested. Erosion control structures and on-site containment of runoff above the Meadows will be necessary before gully erosion can be corrected. A county-owned parcel of 4.12 acres divides the Meadows, and a private dwelling occupies .98 acre at the lower end.

The Lee Canyon Recreation Residence Area was approved in 1956. Individual lots were for the purpose of constructing private summer homes. The tract was originally planned for 17 lots. There are now nine residences under term permit. The remaining eight lots were withdrawn from further leasing in 1962.

Water development to serve these nine residences consists of a well and storage tank with distribution lines. The system was installed by the permittees through formation of the White Rock Mountain Home Corporation. A free-use permit issued April 1, 1964, authorized these improvements. Power generators are utilized at each home site as electrical service is currently not available in Lee Canyon. Sewage disposal is by individual septic tanks.

Permittees pay an annual fee for use of Forest land. The permits have an expiration date of December 31, 1998. The tract may have potential for future recreational development. Lands in this unit were purchased and are not subject to mineral entry.

OTHER CANYONS

A primitive, single-lane road of about four miles commences on the Lee Canyon Highway and deadends in Mack's Canyon. Another primitive road accesses BLM lands below Mud Springs. A steep road provides access to Camp Bonanza, a former Boy Scout Camp that has been abandoned and the permit closed.

The Camp Bonanza Road intersects with the Wheeler Pass-Cold Creek Road. The paved Cold Creek Road is 12 miles in length, leading to US 95 and then 40 miles to Las Vegas. Within two miles are BLM campgrounds at Cold Creek and Willow Springs, accessible over the dirt road leading to Wheeler Pass. These sites have the unique attraction of flowing water.

A six to eight mile paved highway has been proposed from Lee Canyon to the Cold Creek Road. The route generally would follow the first two miles to Macks Canyon and then continue along the foothills to intersect with the Cold Creek Road. This would provide the motorist, making the circle tour across Deer Creek Highway, a longer option of returning to Las Vegas via the Cold Creek Road. The highway would disperse sightseeing traffic over a larger area. Careful location would be required to avoid disrupting wildlife values around Mud Springs. The location should stay far below Mud Springs.

Emergency and administrative travel would be greatly improved by reaching Camp Bonanza from Kyle Canyon in less than 20 miles, rather than the existing drive of over 50 miles. Potential sites in this area could be developed for camping. This would divert some recreational pressure from the heavily used Kyle and Lee canyons (which need to be converted to day-use anyway) for more efficient recreation management.

There are no known archeological sites of significance on the Forest in this area. However, no intensive survey has ever been conducted. Two sawmill sites near Camp Bonanza contain relics and remnants of machinery. Wildlife is not abundant, but is more prevalent here due to more limited human use. Deer and elk migrate in and out of the area. Turkeys were introduced around Camp Bonanza. Wildlife values may be adversely affected by increased human occupancy and road construction. The Mack's Canyon (Cold Creek) fire of 1981 burned 6,400 acres, including three potential recreation sites.

The existing Wheeler Pass Road from Pahrump generally follows the Wheeler Wash drainage. Trough Spring, Clark Canyon, and Wallace Canyon are accessible over side roads from this main travel route. A well-maintained graded road branches from Wheeler Wash to Clark Canyon, providing the easiest and most direct travel time to Forest lands from Pahrump.

A trail has been constructed from Trough Spring up to the Bonanza Peak Trail, but is not completed. This trail section is proposed as part of the Divide Trail across the crest of the Spring Mountains. A snow course is located above Trough Spring along this trail. A bench formation along this trail has an abandoned mine shaft indicating early day mineral exploration. A trail has been proposed to continue from Trough Springs toward Wheeler Pass.

Clark Canyon is accessible over a graded road from Pahrump. Major road relocations and reconstruction have occurred since the private lands were acquired by the present owner in late 1964. Private equipment has frequently been used to maintain roads. Maintenance has not always provided for erosion control or water escape from the road surface. Unauthorized disturbances have occurred off the roads.

The private land of 373 acres consists of bench-land formations and alluvial bottom lands. Irrigated pastures, separate home sites, dams for water impoundment, roads, and skid paths for woodcutting have been constructed in recent years. Erosion potential has increased with this disturbance and there is concern for flood potential from the earthen dams.

An intervening piece of National Forest lies between two parcels of private land. An open flat in the drainage bottom was once used as a Forest Service tent camp. This camp was used in 1960 while reforesting the Clark Canyon burn. Remains of an older log cabin are of interest and may have local historical significance, predating the Clark Sawmill.

The historic Clark Sawmill is located adjacent to the private land. Fencing of this sawmill site became necessary to protect remaining machinery parts, the boiler, and other remnants. The site has been signed for protection as an antiquity and is being considered for nomination to the National Register of Historic Places.

A large steel gate prevents the public from traveling beyond Clark Sawmill. This gate was relocated in 1976 to the assumed property line. A historical road to the log cabin and sawmill existed in this canyon prior to the 1881 survey. The road is inventoried on the Forest Transportation System. The gate and a fence block access and discourage use on approximately five square miles of National Forest land above the private lands.

A large fire in July of 1959 consumed 3,600 acres in Wallace Canyon. Starting on BLM lands to the west, the fire rapidly burned three miles into the canyon, with winds up to 50 miles an hour. Portions of the bottom land and adjacent benches were salvage-logged for fuelwood. Plantations of Jeffery pine failed to survive. Remaining timber is now threatened by insects and disease.

Wallace Canyon is accessible over about five miles of primitive road from Wheeler Wash. The road continues up the canyon bottom, but soon becomes impassable except to four-wheel drive vehicles. The alluvial bottom has been subjected to active erosion and the channel is unstable. Flood conditions can transport large amounts of material.

Upper Wallace Canyon has been inventoried as a potential recreation site. This area is heavily forested in a mixed pine-fir stand. The site is one of the largest within the National Forest and the only site on the western slopes of sufficient size for development. Access would be costly and would require over eight miles of road construction from Wheeler Wash. The road would be routed along bench lands above the alluvial channel as much as possible.

A water transmission line has been laid in the alluvial wash and is exposed in many locations. This pipeline transports water from a scenic rocky gorge to cattle troughs on BLM lands. Water rights will need protection for public benefit in this area. Aesthetic impacts of the pipeline will need to be considered. The rocky gorge and waterfall are attractions with interpretive possibilities.

APPENDIX H

APPENDIX H

MINERAL/GAS/GEOTHERMAL IMPACTS BY MANAGEMENT AREA

MANGEMENT AREA NAME AND NUMBER	ACRES OPEN	MINERALS WITHDRAWN	GEOTHERMAL	OIL AND GAS	TOTAL
1-Dog Valley	23722	1278			25000
2-Carson Front	90156	44			90200
3-Alpine	113624	976			114600
4-Walker	199188	4512			203700
5-Existing Wilderness	0	135100			135100
6-Bridgeport/P-J	605107	293			605400
7-Paradise/Shoeshone	267240	560			267800
8-Toiyabe	526396	2562	5659	6383	541000
9-Toquima	525179	239	8542	1440	535400
10-Monitor	695254	1569		4377	701200
11-Mt. Charleston Developed	12538	1682		1280	15500
12-Mt. Charleston Wilderness	38644	38	—	3818	42500
	3084894	149007	14201	17298	3265400

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